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Industrial Health, Occupational Medicine and Traumatic Surgery

June, 1946

Small Plant Health and Industrial Hygiene Program
— Cooperative Plan in New York City —

Chest Conditions Simulating Silicosis
— Classification of Diseases —

Coordination of Official Industrial Hygiene Program
— With Other Agencies —

The Road Back
— Personnel's Responsibility —

An Occupational Dermatitis
— Due to Trichlorethylene Gas —

Union Health Plan
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Mass Radiography
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WE ARE reminded again of the old story—long among our favorites—of the man who was being kidded about the 36-mile railroad out in Iowa of which he was chief engineer. He said: "Well, it may not be as long as some, but it's just as *wide* as any." So with this issue. Publishers in general are acutely aware of the many things almost euphemistically called "the difficulties faced by the publishing industry"—strikes, material shortages, increased costs, emergency expedients, slow-downs, dim-outs, etc., *ad wearium*, but, somehow, magazines get published. Big and little, they accommodate themselves to the exigencies of the times. One drops "36 pages of advertising," another "eight editorial pages," many are late, some have to omit an issue and double up on the next one. The most recent "difficulty" is the effect of the coal restrictions, wherein "Chicago bore the brunt of the power blackout," being compelled to adjust itself to a 24-hour work week—as to which, the effects "will be felt for a long time." What else is in store, nobody knows. Business on the whole, however, has the advantage of having been severely tested—in many important respects of its ability to survive. And it survives—its plans, perhaps, a bit curtailed for the time being, but its hopes undimmed. And so, while there aren't as many feature articles as usual in these pages, the importance and timeliness of those here presented will easily sustain the interim of interesting and valuable reading—quality as usual, pending the opportunity for more of the same. Notable is that of DR. MILLMAN on the "Small Plant Health and Industrial Hygiene Program" (page 371). (As this is written, word comes that DR. LEONARD GREENBURG, one of the co-authors of this article, has just been appointed Health Commissioner of the City of New York.) . . .

INDUSTRIAL MEDICINE, The Journal of Industrial Health, Occupational Diseases and Traumatic Surgery. Entered as second class mail matter August 28, 1941, at the Post Office at Chicago, Illinois, under the Act of March 3, 1879. Published on the fifth of each month by INDUSTRIAL MEDICINE PUBLISHING COMPANY, Chicago (publishers also of INDUSTRIAL NURSING, issued monthly, and AMERICAN INDUSTRIAL HYGIENE ASSOCIATION QUARTERLY). STEPHEN G. HALOS, President; A. D. CLOUD, Publisher; C. O. SAPPINGTON, M.D., DR. P.H., Editor; CHARLES DRUECK, JR., Secretary and Treasurer; STEPHEN G. HALOS, Advertising and Business Manager. PUBLICATION, EDITORIAL and EXECUTIVE Offices: 605 North Michigan Avenue, Chicago 11, Illinois. Subscription $5.00 per year in the United States; $5.50 per year in Canada; $6.00 per year in other countries. Single copies 50 cents. Title Registered in United States Patent Office.
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PERSONAL

FREDERICK S. MALLETTE, on April 1, 1946, entered into his new association with Firestone Tire & Rubber Company, at Akron, Ohio, where he will have full-time responsibility for all industrial hygiene and toxicological investigations. Recently, in Chicago, MR. MALLETTE has been Staff Representative for the Chemical Section of National Safety Council.

THE KANSAS CITY ASSOCIATION OF RAILWAY AND INDUSTRIAL PHYSICIANS AND SURGEONS elected DR. G. A. ROY as President at their annual meeting, April 5. DR. ROY succeeds DR. EUGENE BLACK. Other officers elected were DR. EDWARD P. HELLER, Vice-President, and DR. CARL N. LINDQUIST, Secretary.

HARLEY S. GIBBS, M.S., M.D., a graduate of the School of Medicine, University of Pittsburgh, in 1945, has been awarded a fellowship in industrial medicine at the School of Medicine, University of Pittsburgh. This fellowship is under a grant from the Mine Safety Appliances Company, Pittsburgh.

DR. JOHN F. SHRONTS has been appointed Chief of the Division of Industrial Hygiene, effective March 10, 1946. DR. SHRONTS, a native of Illinois, has been on terminal leave after serving four years in the medical corps of the Navy, and has been taking a refresher course in the graduate school of public health at Johns Hopkins University, Baltimore, Maryland. Prior to entering the Navy, he was a district health superintendent for the State Department of Public Health, with headquarters at Woodstock, and was granted a military leave of absence. He graduated from Northwestern University in 1936. After an internship at the City of Detroit Receiving Hospital and a medical residency he did post-graduate work at the School of Public Health at the University with a bachelor of science degree in 1934, and from the Medical School of Northwestern University in 1936. After an internship at the City of Detroit Receiving Hospital and a medical residency he did post-graduate work at the School of Public Health at the University of Michigan.

THERE is an excellent opening for a physician at Stonewall, Mississippi, in a part-time industrial position. Anyone interested in such an opening is advised to consult DR. DONOVAN C. BROWNE.

—New Orleans Med. & S. J., April, 1946.

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PROGRESS in industrial hygiene in Wisconsin during very recent years is shown by the number of factory nurses employed. In 1941 registered nurses in industrial health programs numbered only 80. Last year there were 550. Meanwhile additional physicians were employed by factories, full-time or part-time. A significant development is the practice of pre-employment examinations which enable the personnel departments of manufacturing plants to make more adequate placements of new employees. Plant health educational programs have been expanded.

THE Canadian Medical Association will meet in joint session with the American Pharmaceutical Manufacturers' Association on the evening of June 10, at the Banff Springs Hotel, Canada, where the CMA is convening concurrently with the AMPA's convention at nearby Lake Louise. It is believed this marks the first formal joint session anywhere of associations representing the pharmaceutical manufacturers and the medical profession they serve.

FREE x-ray examinations are being offered to all Hercules Powder Company employees at the Parlin plant from March 21 to 27. The chest survey is being made in conjunction with the New Jersey State Department of Health, division of tuberculosis control. It is made available by the company to enable employees to detect any early symptoms of tuberculosis and correct them before the disease becomes serious, and as a protection to workers from those with such symptoms.

—Perth Amboy, New Jersey, News, March 22, 1946.

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THE University of Pittsburgh School of Nursing announces for the academic year 1946-47, beginning September 20, four fellowships in industrial nursing ($1,250 each), to prepare graduate, registered nurses for positions as supervisors, consultants, and instructors of industrial nursing. Appointments will be based on consideration of these qualifications: (1) General education beyond high school; (2) A major or certificate in public health nursing or courses in industrial nursing; (3) Experience in public health nursing or in industrial nursing; (4) A pleasing, well adjusted personality; (5) A pioneering spirit and vigorous health, (6) Ability to win and hold the respect of fellow workers, employers, and patients. These fellowships have been made possible by a grant from the W. K. Kellogg Foundation. The University of Pittsburgh School of Nursing is accredited by the National League of Nursing Education and the National Organization for Public Health Nursing and holds full membership in the Asso-

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Published under supervision of the Ways and Means Committee of the New York State Society of Industrial Medicine. Editorial office, F. E. REDMOND, Managing Editor, 361 Delaware Avenue, Buffalo, N. Y. Articles herein do not necessarily reflect the opinion or policy of this journal nor of the New York State Society of Industrial Medicine.

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ciation of Collegiate Schools of Nursing. The Pittsburgh area offers unusual opportunities in many kinds of industrial nursing. Apply on or before May 15, 1946, School of Nursing, University of Pittsburgh, Pittsburgh 13, Pennsylvania.

Industrial Medicine on the Air

THE University of Chicago Round Table devoted its program on April 14 to a subject which must be of increasing interest to businessmen and employers everywhere. The subject was, "What Is Management's Responsibility for the Medical Care of Its Employees?" DR. LEO PRICE, medical director of the International Ladies Garment Workers Union, declared that labor now feels that management is responsible for the health of the worker in the same way that it is responsible for good working conditions, reasonable hours and satisfactory wages. He pointed out that the I.L.G. program is the first for which management pays the cost while labor does the managing. Labor selects and distributes medical services and cash disability indemnities through its own medical organization, the Union Health Center. DR. JOSEPH H. CHIVERS, medical director of the Crane Co., of Chicago, responded that industry's first responsibility is to furnish the best available medical care for illness caused by the nature of the employment; that it should concentrate on the preventive side. CHIVERS added that the "prime object of medical service rendered by industry should be the maintenance of the worker on the job through better health behavior; it should not represent a paternalistic leaning toward taking over the responsibilities that are inherent in the individual . . . the fundamental right . . . of choosing his own doctor." DR. EDWARD HOLMBLAD, senior surgeon at St. Luke's Hospital, and managing director of the AMERICAN ASSOCIATION OF INDUSTRIAL PHYSICIANS AND SURGEONS, presumably reflecting opinions of medical men in the field of industrial medicine, conceded that full medical and hospital care should be given in all workmen's compensation and occupational disease cases. But he insisted, too, that in all instances "the recognized confidential patient-physician relationship must be maintained, and that the industrial physician should be responsible only to

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the chief executive officer of an organization." But DR. JOHN J. WITTMER, medical director of Consolidated Edison of New York, agreed with DR. PRICE, of the I.L.G., that industrial medicine should give complete care. He differed with PRICE, however, as to responsibility. "It is the duty of management to see that its employees' well being is so preserved that they can do their work properly, discharge their obligations to their families and their community. Our company provides complete medical and dental care, financed jointly by the employees and management," he concluded. These viewpoints would seem to indicate that industrial medicine is beginning to work out a policy. The Round Table Bulletin No. 421 throws useful light on the subject.

—PHIL HANNA, in *Chicago Daily News*, April 30, 1946.

NICOTINE CONTENT
Scientifically Reduced to LESS than 1%

TESTING SANO CIGARETTE SMOKE FOR ITS NICOTINE CONTENT

SANO cigarettes are a safe way and a sure way to reduce your patient's nicotine intake. Sano provide that substantial reduction in nicotine usually necessary to procure definite physiological improvement. With Sano there is no question about the amount of nicotine elimination. With Sano you encounter none of these variable factors involved in methods which merely attempt to extract nicotine from tobacco smoke. With Sano, the nicotine is actually removed from the tobacco itself. Sano guarantees always less than 1% nicotine content. Yet Sano are a delightful and satisfying smoke.

WARNING
Chemical analyses show that pinches of cotton used in cigarette mouth-pieces are entirely ineffective in removing any appreciable amount of nicotine from cigarette smoke.

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For Physicians Only

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PLEASE SEND ME SAMPLES OF SANO CIGARETTES.
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TO provide an organization, not for pecuniary profit, in which all agencies and societies, both medical and lay, concerned with the problems of industrial health can hold membership and can meet together in conference for the study, discussion and careful consideration of all industrial health problems and procedure; to engage in scientific research to determine the cause, nature, prevention and cure of diseases and injuries of occupations; to assist in establishing and supervising industrial health clinics to serve small industries; to establish and maintain hospitals which will furnish facilities for the care, treatment and study of occupational injuries and diseases; to make surveys of industrial medical services and recommendations for their improvement; to solicit, receive and administer funds for any purpose that will advance and/or improve industrial health; to establish undergraduate and/or post-graduate courses in industrial medicine and surgery and/or to cooperate with medical schools and industries in maintaining such courses; and to use all those means which from time to time, may seem wise, for the advancement of industrial health.

A new treatment for

Poison Ivy, Poison Oak, and Poison Sumac Dermatitis

THYPTOL

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KAOLIN IN ALUMINA GEL WITH PHENOL

THYPTOL CHECKS symptoms *at once* . . . The skin heals quickly.

Prevents spread of the lesions. The base of kaolin and alumina gel inactivates the irritant fluid in the blisters and dries to form a protective coating which prevents spread.

Controls itching promptly through the local anesthetic action of phenol.

Thyptol is available in 3 oz. bottles. Apply locally.

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ACHING FEET
Impair Production Schedules

Lagging production can often be traced to lowered worker efficiency resulting from tired, aching feet. Improperly fitted shoes, or inadequate foot support, call for immediate attention.

During the years when longer shifts required workers to be on their feet longer hours daily, many manufacturers found WIZARD ARCH BUILDERS, the scientifically designed, all leather, orthopedic appliance the way to reduce foot fatigue and keep up production line morale. WIZARDS use exclusively the patented principle of overlapping, interchangeable inserts, and can be fitted instantly to any type foot.

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TRIMFOOT TERRACE • FARMINGTON, MISSOURI

THIS FREE BOOK WILL HELP YOU RECOGNIZE COMMON FOOT AILMENTS

Recognize at sight those symptoms of foot fatigue that cut worker efficiency in your plant. Trimfoot offers you free, "Orthopraxy of the Foot," a 60 page illustrated booklet on feet and fitting. Write for your copy today on your plant letterhead, or use the coupon below.

Appliance Products Division, Trimfoot Company,
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Please send "Orthopraxy of the Foot," the booklet that will help me increase worker efficiency by reducing foot fatigue.

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THERE'LL BE ANOTHER "LOST-TIME" REPORT UNLESS YOU CAN OFFER

QUICK RELIEF FROM HEMORRHOIDAL PAIN

Warren-Teed HEMOLETS

Each Warren-Teed HEMOLET contains 2.25 Gm. of ointment representing: *Stramonium 1%* (containing 0.25% of alkaloids of Stramonium)—relieves pain. *Phenol 2%*—enhances analgesic properties, is antiseptic. *Ichthammol 2%*—promotes healing. *Horse Chestnut 2%*—astringent. *Hamamelis 3%*—astringent. *Benzocaine .046%*—effective local anesthetic.

NAGGING discomfort from hemorrhoids can cause lowered efficiency—lost time. But not when the industrial physician prescribes immediate relief with Warren-Teed HEMOLETS.

The single-dose, collapsible gelatin HEMOLET tubule is readily self-applied—and the ointment quickly brings "on-the-job" comfort. Notice the pain-relieving ingredients in the single-dose tubule. Prescribe convenient Warren-Teed HEMOLETS.

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Medicaments of Exacting Quality Since 1920

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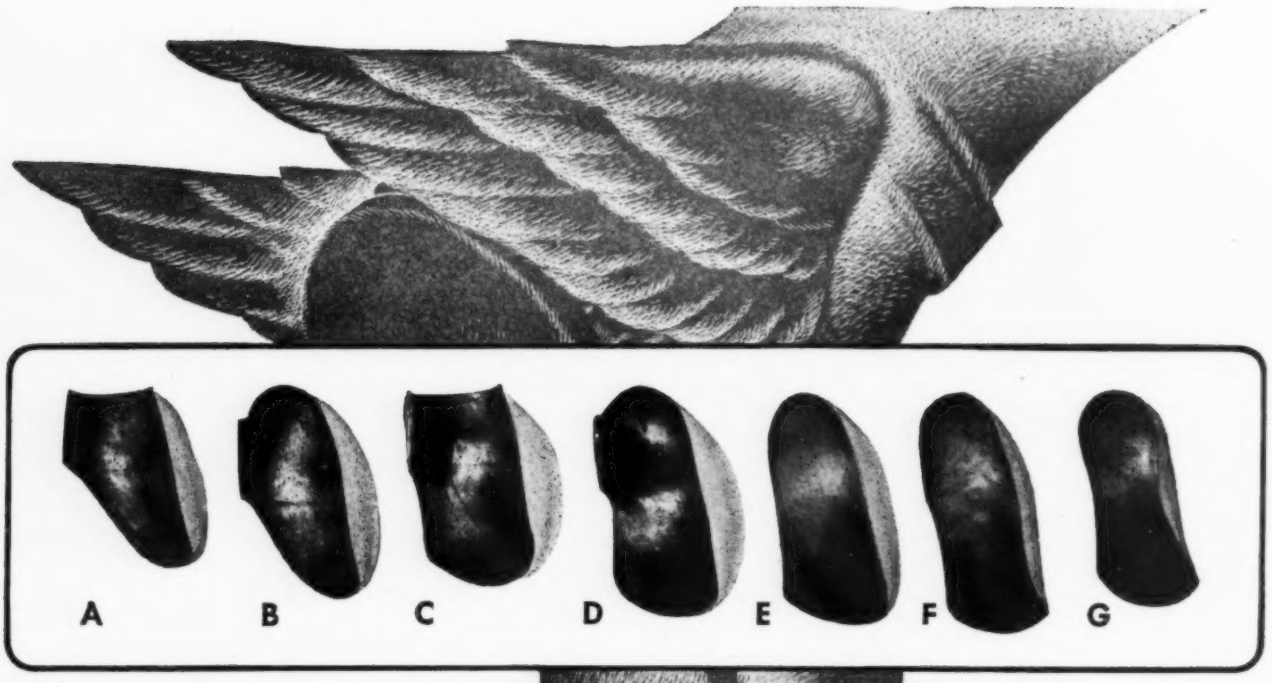


FIBERGLAS helps give "Wings" to deformed feet

A technique*, utilizing Fiberglas cloth, has been developed by Julius J. Gottlieb, D.S.C., and Morris M. Gottlieb, D.S.C., for molding plastics laminates into prosthetic appliances†.

Negative and positive casts of the foot are made by the usual methods. A predetermined number of cut-to-shape plies of Fiberglas fabric, pre-impregnated with low-pressure resin, are applied to the cast. The positive cast with the applied laminate is inserted and sealed in an air-tight bag. The air is exhausted from the bag and a vacuum is maintained during the heat-curing period.

The result is a strong, light-weight appliance that fits. It is unaffected by body acids, does not absorb perspiration, will not oxidize and is dimensionally stable.

This is but one of many uses of Fiberglas in medicine. Many physical properties not often found in combination are responsible for the contributions Fiberglas has been able to make in fields of research bearing on health. Fiberglas is glass in fiber form. It is an inorganic, nontoxic, nonallergenic, nonsensitizing and chemically stable material that produces no harmful effect upon human tissue.

We shall be glad to refer your request for information about Fiberglas-plastics foot prosthetic appliances to the Drs. Gottlieb. Or, a complete bibliography of the data compiled on the subject of Fiberglas materials and their medical aspects will be forwarded on request. Write: Owens-Corning Fiberglas Corporation, Dept. 2029, Toledo 1, Ohio. Branches in principal cities.

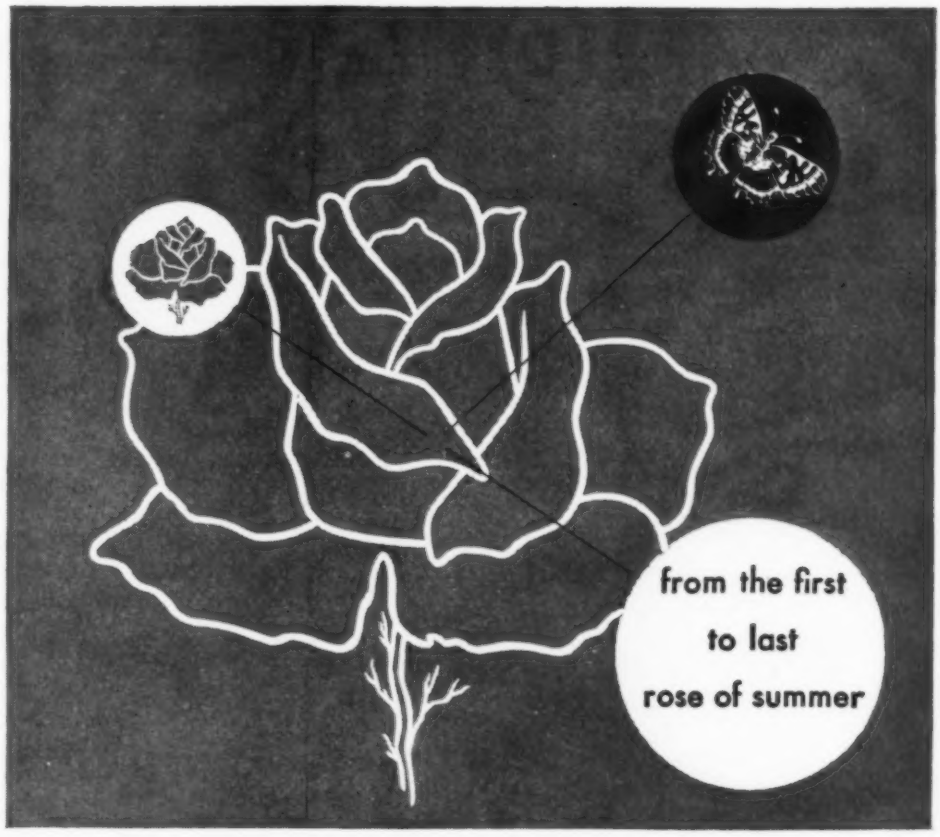
In Canada: Fiberglas Canada Ltd., Oshawa, Ont.

* * *

*Reprints of the paper on this subject which appeared in The Journal of the National Association of Chiropodists, Jan. '46, will be furnished on request.

†Typical examples: A. Whitman rocker appliance; B. Modified Whitman with heel cup; C. Modified Whitman with metatarsal raise; D. Modified Whitman with heel cup and metatarsal raise; E. Simple foot plate; F. Combination metatarsal and longitudinal arch appliance; G. Metatarsal appliance.

OWENS-CORNING
FIBERGLAS



. . . many of your patients will be harassed by a variety of pruritic skin irritations which require prompt, symptomatic treatment.

Your patients with ivy and oak poisoning, summer prurigo, insect bites and other dermatoses commonly encountered during the summer season will welcome the prompt, soothing relief provided by 'Caligesic' Analgesic Calamine Ointment.

A greaseless, bland cream with anesthetic, analgesic, astringent and protective properties, 'Caligesic' Ointment does not stain the skin and may be used safely on infants. It is also useful in the symptomatic treatment of such conditions as intertrigo, pruritus ani, pruritus vulvae and pruritus scroti.

Each 100 Gm. contains: Calamine, 8.00 Gm.; Benzocaine, 3.00 Gm.; Hexylated Metacresol, 0.05 Gm. Supplied in 1½ ounce tubes. Sharp & Dohme, Philadelphia 1, Penna.

'CALIGESIC' *ointment* | Analgesic Calamine Ointment (Greaseless)

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While any cream may give some degree of protection, West makes a *series* of protective cream formulas because tests have shown that each specific hazard can be more adequately met when the protective cream used is formulated especially for that specific hazard.

There is a WEST Cream to Meet Your Industry's Particular Hazard

Compounded as a quick vanishing cream with sufficient oily residue to form a protective film against *salt solutions, mild alkaline and acid solutions, dust powders and certain irritating vapors*. Being a vanishing cream, it is soothing in application.

A vanishing cream which is generally used as a protection against *dusts, powders, heavy oils, greases*, but is less resistant to water vapors than West Protective Cream No. 11.

Designed to protect the skin against organic solvents such as *kerosene, gasoline, carbon tetrachloride, xylol, lacquer thinners, paints, enamels and lacquers*. Washes from skin readily with soap and water and does not dissolve in the organic solvents. This cream also protects the skin against dusts and certain vapors.

A heavy bodied cream possessing special cleansing ingredients as well as special materials scientifically combined to protect against *certain aqueous* and *alkaline solutions*.

This cream is primarily resistant against aqueous solutions and is recommended against *detergent solutions, alkaline solutions, cutting oils, vapors, dusts*, and such other harmful materials that would ordinarily penetrate through the aforementioned protective creams.

This cream contains Zinc Oxide and Benzoic Acid and is acid in reaction, being recommended against irritating alkaline conditions affecting the skin. While basically it functions as a cold cream, it is more specific for *alkaline conditions* than West Protective Cream No. 44.

Contains a chemical photodesensitizer, and a bland pigment to protect against the action of *Coal Tar Compounds, Petroleums, Tar, Pitch* and like substances, and is a protection against actinic rays when they act as an external irritant in conjunction with the above compounds.

This cream forms a homogeneous reinforced oxidizing film on the surface of the skin as a protection against toxic elements of explosives such as *Tetryl, TNT, DNT, Fulminate of Mercury, Lead Styphnate, Amatol, Dinitrophenol, Lead Azide*, etc.

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CONTROL, PREVENT or TREAT

Industrial Dermatitis with Paraprol "National"

1. Parkes, M., Ind. Med., *14*:565-566, July 1945. 2. Dobbins, T., *Ibid.*, *15*:13, January, 1946.

DURING WORLD WAR II, the need for effective control of industrial dermatitis became more urgent than ever; and countless remedial and preventive preparations made their appearance. Of these, many offered merely the inert protection of various ointment bases and oils. Others cleansed the skin, but exerted an undesirable de-fatting or drying activity. Still others, though effective in cleansing or protecting, had little power to control the itching of the irritated skin.

PARAPROL "National" accomplishes all three therapeutic ends[1,2]—for it contains two effective detergents, a useful healing agent and a local anesthetic, in a special demulcent vehicle. And its pleasant odor and attractive appearance invite the cooperation of the user.

PARAPROL "National" cleanses and removes irritating substances, allays itching, and leaves a soothing film which acts to preserve, not attack or destroy the protective functions of the epidermal skin layers. It is likewise the preparation of choice for the treatment of various skin affections encountered in general practice. Write for professional literature to **The National Drug Co., Philadelphia 44, Pa.**

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Paraprol Contains:

Benzyl Alcohol, 4%; Nacconal Lal, 5%; Urea (Carbamide), 8% in a special aromatized, colored base. Available in 4 oz., 16 oz. and 1 gal. bottles.

PHARMACEUTICALS, BIOLOGICALS, BIOCHEMICALS FOR THE MEDICAL PROFESSION

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THE NATIONAL DRUG COMPANY, PHILADELPHIA, PA.

"Tar without feathers"

Many patients needing topical coal tar therapy view the usual preparation as but little improved over the tar and feather punishment of the past. A preferred, modern, effective yet acceptable crude coal tar ointment—"a tar without feathers"—

ULTROINE Ointment acts to dry moist weeping areas; thin down thickened, lichenified and keratotic skin; stimulate normal growth of epithelium; supplant oral SAS-PAR therapy for refractive psoriatic plaques.

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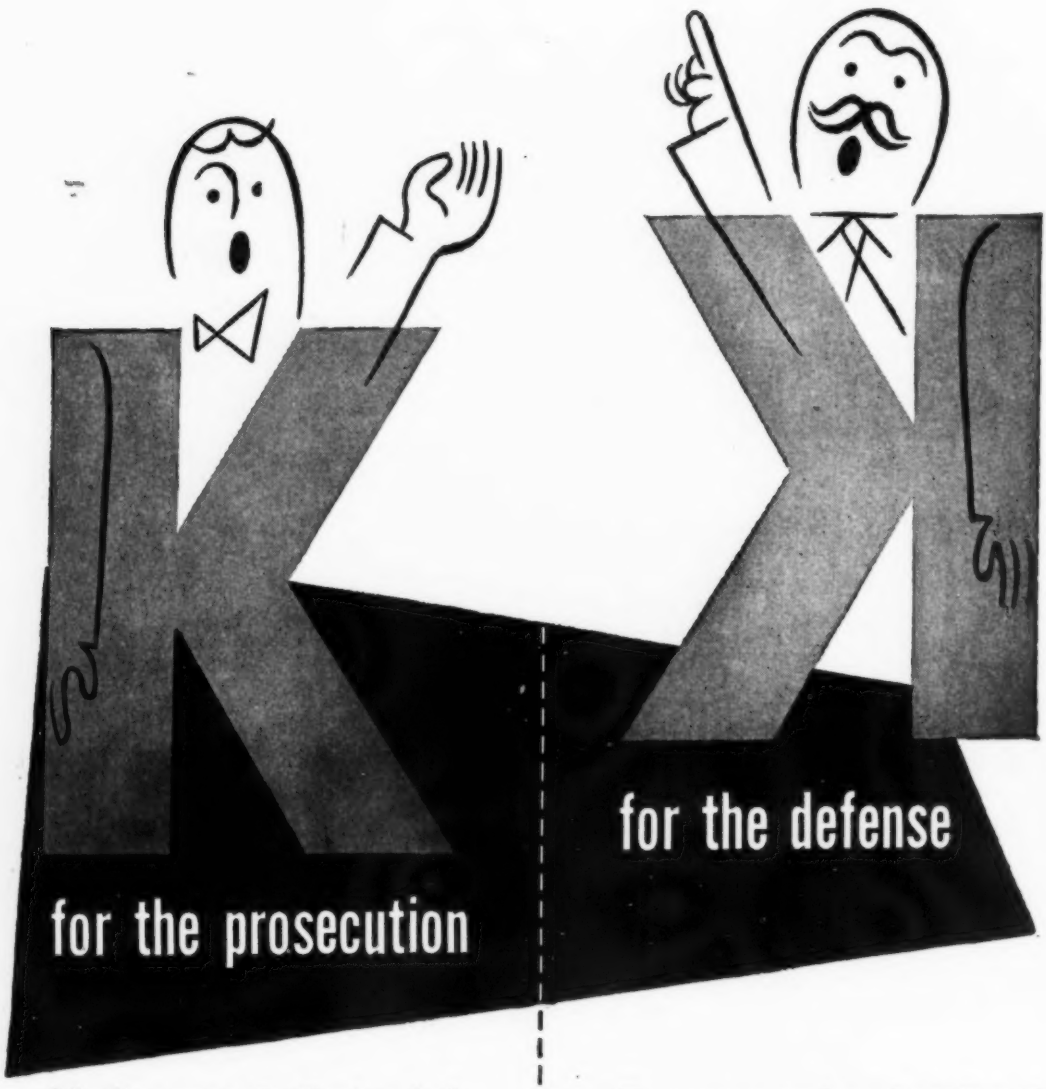

Offending agents in diarrhea, both bacteria and toxins, are relentlessly trapped by the powerful adsorptive action of Kaopectate.*

Kaopectate envelops the inflamed mucosa in a soothing, demulcent coating — protecting against further assault. Simultaneously, consolidation of stool and return to more normal bowel function are enhanced by its characteristic hydrophilic properties.

DOSAGE: Kaopectate should be given after each bowel movement. For adults—two to eight tablespoonfuls. For children—one or more teaspoonfuls according to age. *Available in 10 fluidounce bottles.*

Each fluidounce contains: Kaolin . . . . . 90 grains
Pectin . . . . . 2 grains

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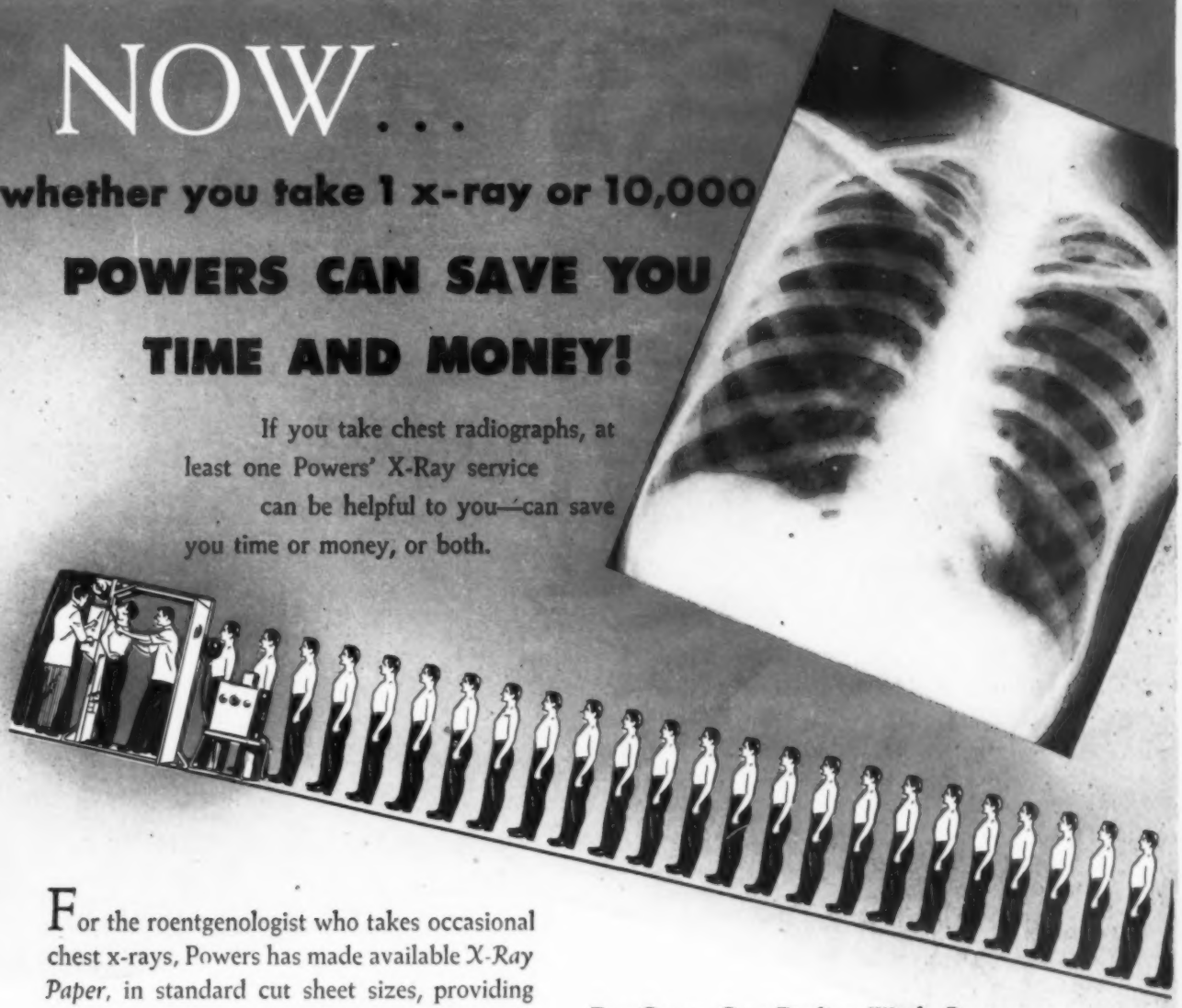
kaopectate

NOW . . .

whether you take 1 x-ray or 10,000

POWERS CAN SAVE YOU TIME AND MONEY!

If you take chest radiographs, at least one Powers' X-Ray service can be helpful to you—can save you time or money, or both.



For the roentgenologist who takes occasional chest x-rays, Powers has made available *X-Ray Paper*, in standard cut sheet sizes, providing exceptional economy combined with high diagnostic quality. More than 4,000,000 chest radiographs made on Powers X-Ray Paper during the past 13 years testify to its excellent quality.

If you take an average of 10 or more chest x-rays each day, Powers will place a *Magazine Cassette* in your office at no cost to you. This new x-ray equipment enables you to take up to 50 radiographs without changing or reloading the cassette. In practice, it doubles equipment capacity and offers you the economical advantages of radiographs on paper—a saving of both time and money.

For Group Case-Finding Work, Powers provides modern, mobile equipment operated by trained technicians at a rate as high as 150 subjects per hour. Set up at a convenient spot within the sponsor's building, the equipment uses regular 220 volt A.C. power, and provides full-size 14" x 17" radiographs. This time-saving method permits making complete case-finding surveys with a minimum of trouble, at low cost, and with maximum efficiency. You know the incidence of T.B.—here is the way to find the infected *individuals*.

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Over half a million chest x-rays taken last year on Powers X-Ray Paper

POWERS X-RAY PRODUCTS

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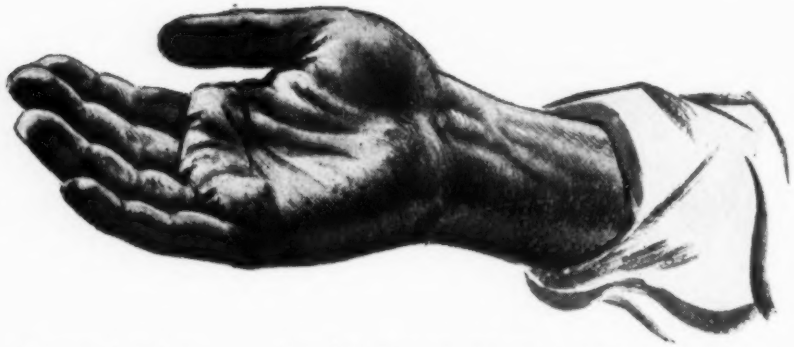
Group Radiography

JUST A FEW DROPS

HELP PROTECT HARD-WORKING HANDS



Grease, grime, dust and dirt are hard on workers' hands, and if not removed may become embedded in the skin and cause irritation. Scouring powders, too much soap or harsh solutions are hard on hands too, and may dry out the skin, causing tiny fissures through which harmful bacteria may gain entrance and cause infection.

TRUSHAY, the "Beforehand" Lotion guards against depletion of the skin's natural lubricant . . . aids in keeping the dermal tissue normal and unbroken.

A few drops of TRUSHAY smoothed on before exposure to dirt and grime, or just *before* washing with soap and water, help make hands soft, smooth and pliable . . . better able to work.

Men as well as women enjoy using this fragrant, creamy hand lotion. Why not keep a supply of TRUSHAY in the dispensary and encourage its regular use by workers in your plant?

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A Product of BRISTOL-MYERS COMPANY 19NE West 50th Street, New York 20, New York

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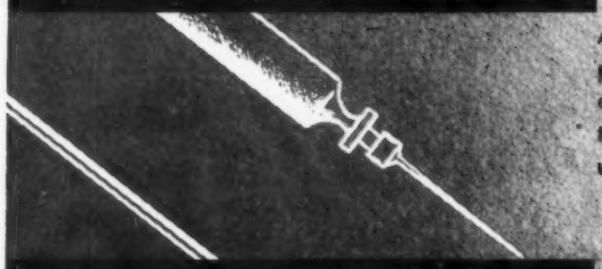

. . . subcutaneously or intramuscularly, ADRENALIN provides rapid symptomatic relief in asthmatic paroxysms; is useful in the prevention and treatment of other allergic reactions; localizes and prolongs the action of local anesthetics. Intravenously, it is used in shock and anesthesia accidents.

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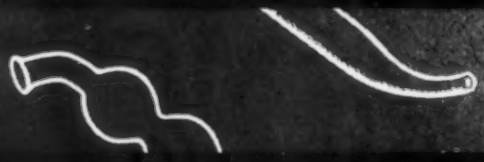

. . . into the nasal passage, ADRENALIN produces prompt decongestion; in the eye ADRENALIN decreases vascular congestion, and aids in the location of foreign bodies.

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. . . orally, ADRENALIN relieves severe attacks of bronchial asthma by relaxing the bronchial muscles.

Its remarkable ability to stimulate the heart and increase cardiac output, raise the blood pressure, constrict the peripheral arterioles, dilate blood vessels of voluntary muscles, and relax bronchial muscles . . . makes ADRENALIN one of the most *versatile* and *useful* therapeutic agents at the command of the physician. Little wonder, then, that it's always kept close at-hand in operating room, office, and medical bag.

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PARKE, DAVIS & COMPANY

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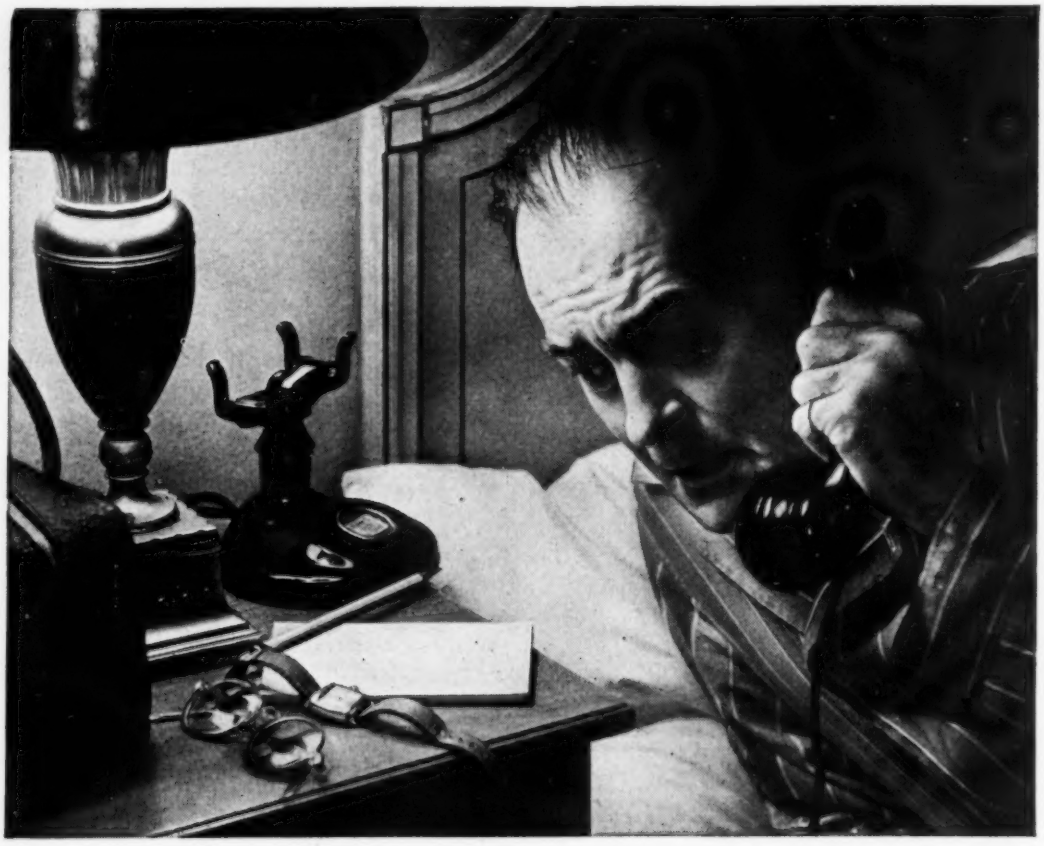

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IN THIS CRITICAL

Evaluation of Foods

AND THEIR NUTRITIONAL CONTRIBUTION

ADVANCING knowledge has changed many of the older concepts of nutrition. In the critical modern-day consideration each food can be evaluated against the standard of nutritional requirements as suggested in the "Recommended Dietary Allowances" of the National Research Council for the promotion of nutritional health.

Many candies—the majority of the kinds and types eaten in the United States—make a good showing under this scrutiny. Such candies, in the manufacture of which milk, butter, eggs, fruits, nuts, and peanuts are used, make a contribution of the many essential nutrients contained in these ingredients.

In addition to their carbohydrate content such candies thus present biologically adequate protein, fats high in unsaturated fatty acids, important B vitamins and minerals, and in amounts which compare favorably with those contributed by many if not most of the commonly eaten desserts.

THE NUTRITIONAL PLATFORM OF CANDY

1. Candies in general supply high caloric value in small bulk.
2. Sugar supplied by candy requires little digestive effort to yield available energy.
3. Those candies, in the manufacture of which milk, butter, eggs, fruits, nuts, or peanuts are used, to *this extent* also—
   (a) provide biologically adequate proteins and fats rich in the unsaturated fatty acids;
   (b) present appreciable amounts of the important minerals calcium, phosphorus, and iron;
   (c) contribute the niacin, and the small amounts of thiamine and riboflavin, contained in these ingredients.
4. Candies are of high satiety value; eaten after meals, they contribute to the sense of satisfaction and well-being a meal should bring; eaten in moderation between meals, they stave off hunger.
5. Candy is more than a mere source of nutriment—it is a morale builder, a contribution to the joy of living.
6. Candy is unique among all foods in that it shows relatively less tendency to undergo spoilage, chemical or bacterial.

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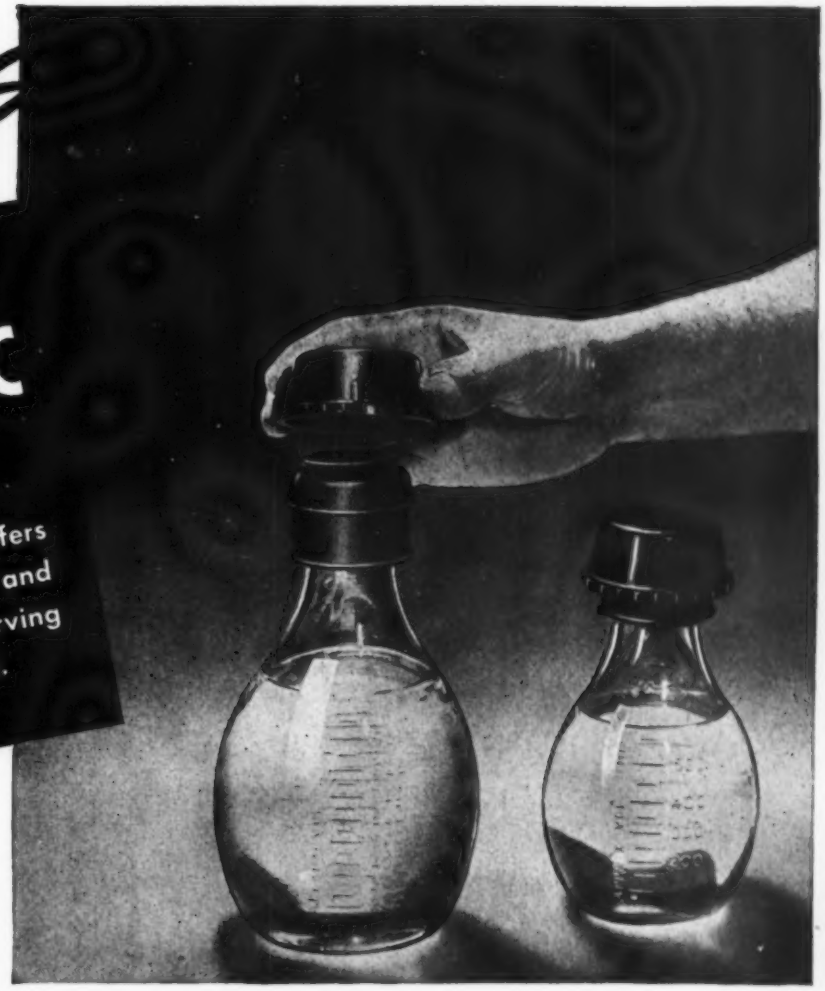

POUR-O-VAC seals are reusable . . . may be sterilized repeatedly.

Will fit Fenwal 500, 1000, 2000 and 3000 ml. containers.

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The Pour-O-Vac seal is a practical hermetic closure which permits storage of sterile fluids for long periods. Sterility may be constantly determined by the audible "water-hammer" signal.

The flaring upper lip of the collar facilitates pouring solutions directly from the original container without danger of contamination by contact with parts of the collar which are not within the sterile area of the closure. Contents will pour freely and without drip.

Serves as an efficient dust-tight seal when total contents of container are not used ▲ Eliminates waste of contents ▲ Saves time in sealing ▲ Eliminates use of cotton, gauze, string, paper, tape ▲ Markedly reduces possibility of breakage or damage to lips of containers.

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*DAUGHTRY, DEWITT C.: Cod-Liver Oil Ointment in Surgery, Surgery, *18*:510-515 (Oct.) 1945.

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1 Ravdin, I. S.; Thorogood, E.; Riegel, C.; Peters, Rozanne, and Rhoads, J. E.: *The Prevention of Liver Damage and the Facilitation of Repair in the Liver by Diet,* J.A.M.A. 121:322 (Jan. 30) 1943.

2 Stare, F. J., and Thorn, G. W.: *Protein Nutrition in Problems of Medical Interest,* J.A.M.A. 127:1120 (April 28) 1945.

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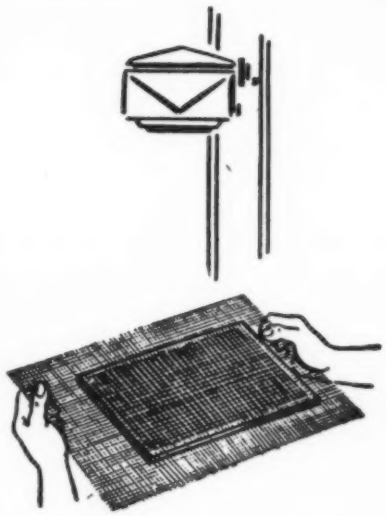

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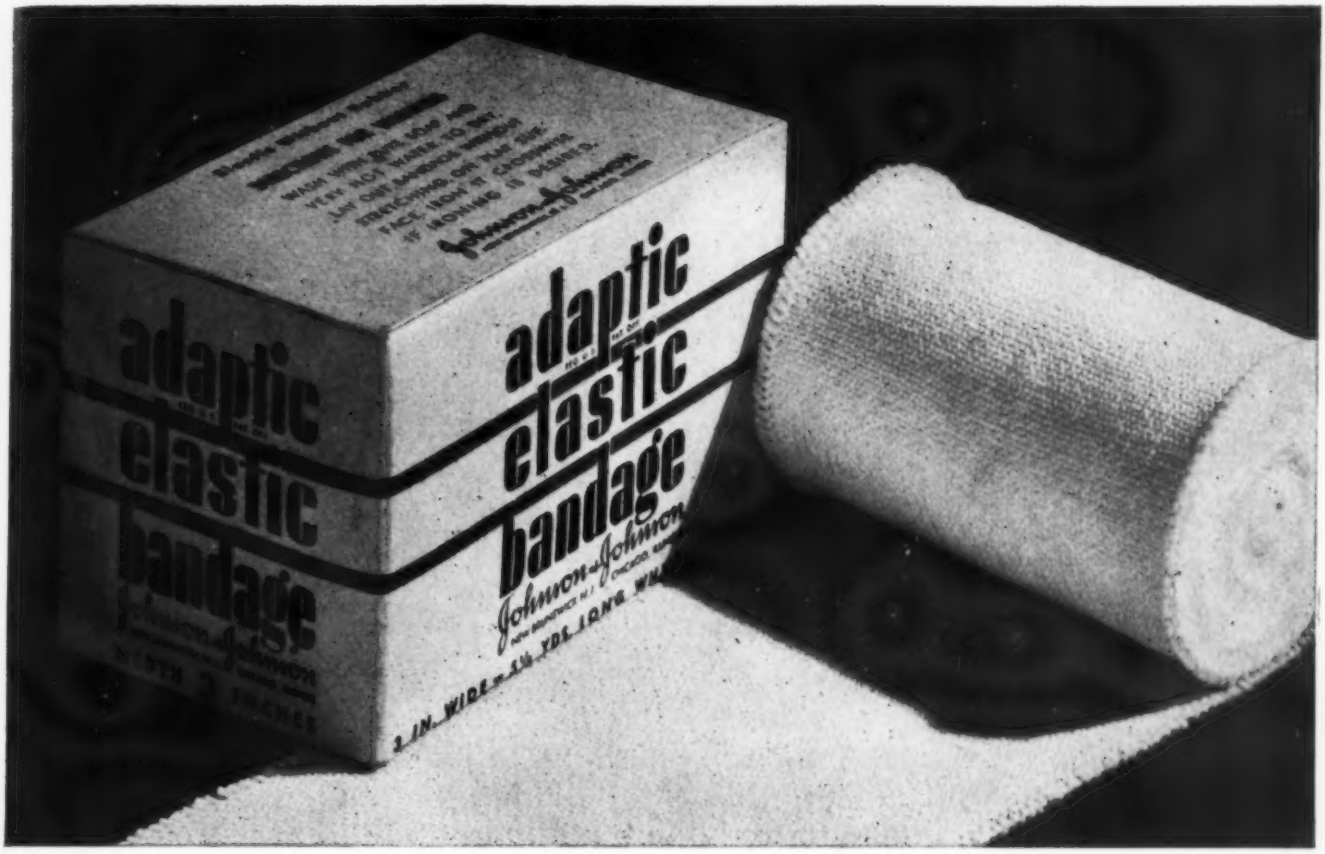

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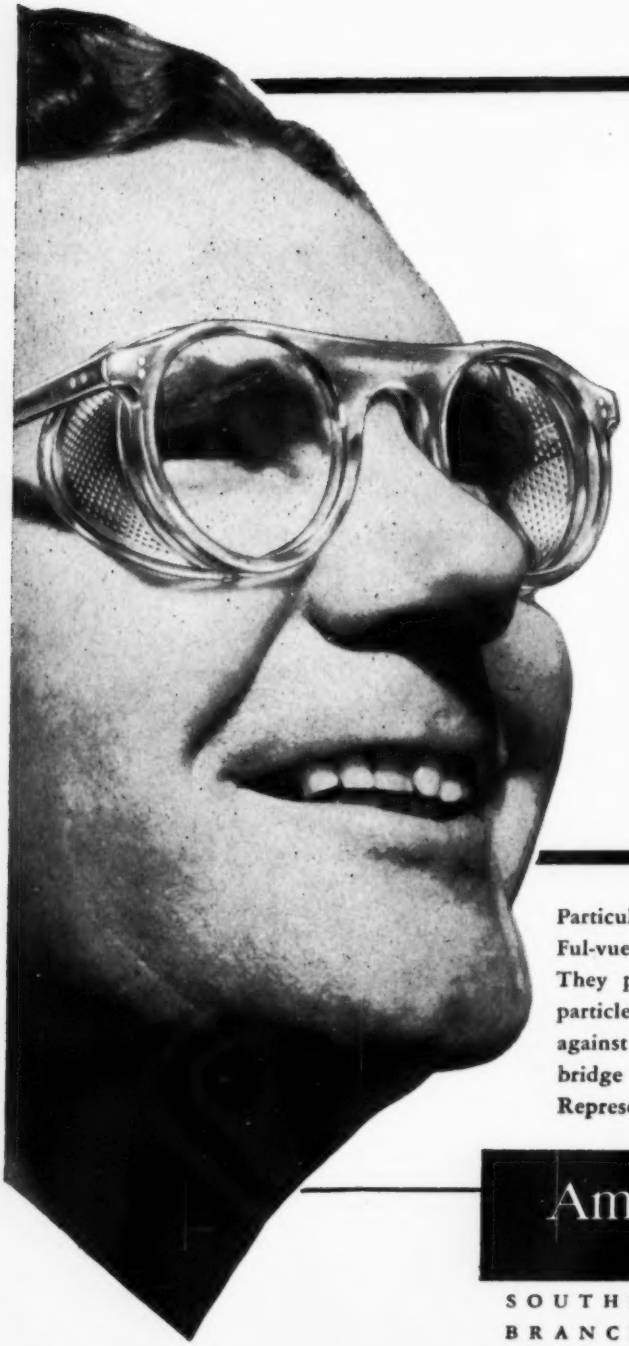

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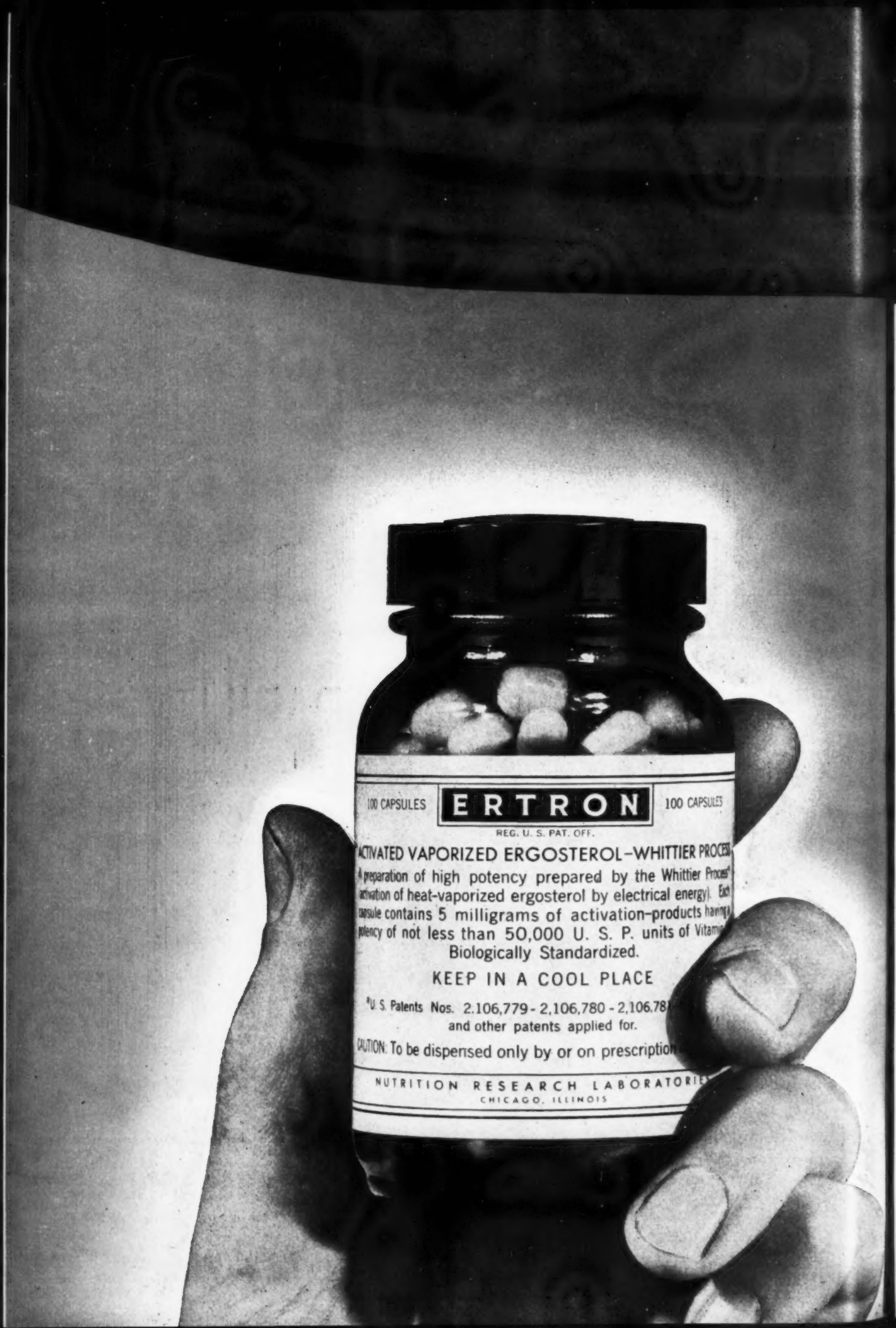
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This magazine is published to promote sound thought upon and concerning industrial medicine and traumatic surgery. To that end it will contain articles, news items, reports, digests, and other presentations, together with editors' comments. The editorial policy is to encourage frank discussion. On this basis contributions are invited.

Industrial Medicine

Reg. U. S. Pat. Off.

The editors will exercise care in checking on the accuracy of data printed but in all other respects articles and opinions of which expression is allowed are the opinions of their authors—the editors reserving in all cases the right to comment on the same in the current or any subsequent issues as they may be inclined.

The Journal of Industrial Health, Occupational Medicine and Traumatic Surgery

With which are consolidated "The Industrial Doctor" and "International Journal of Medicine and Surgery."

The Science, the Law and the Economics of Industrial Health

Volume 15 June, 1946 Number 6

Cooperative Plan for the Development of a Small Plant Health and Industrial Hygiene Program in New York City

NATHAN MILLMAN, M.D.,
Director, Office of Industrial Health,
Senior Assistant Surgeon, U. S. Public Health Service (R),
FRANK A. CALDERONE, M.D.,
Former Deputy Commissioner, New York City Department of Health,
LEONARD GREENBURG, M.D.,
Executive Director,
Division of Industrial Hygiene,
New York State, Department of Labor

IN JULY of 1943 an Industrial Health Unit was established in New York City through the efforts of the New York City Department of Health and the New York State Department of Labor with the cooperation of the U. S. Public Health Service. The personnel for this Unit comprised a physician, nurse, engineer, chemist and secretary. Its duties consisted of activities aimed at the improvement of worker health through control of his environmental hazards and his individual health problems.

This Unit, later called the "Office of Industrial Health," confined most of its activities to one industrialized area in New York City, namely, Long Island City.

After surveying a number of plants and determining their needs, it was found that the Office through the consultation services of its physician, engineer and chemist could adequately control environmental health hazards. The problem of improving the individual's health could not be accomplished very readily and especially so in small plants where no organized health program existed.

It was then decided to obtain the cooperation of several small plants having no existing health program and to utilize these plants in working out a method of operating a good health program which would accomplish the objectives of reducing the mortality and morbidity of the adult working group, improving the health of this group and bringing it under the supervision of the Health Department.

The Heart of the Program

THE program to be undertaken in this group of plants was outlined. It consisted of adequate health supervision and improvement of the worker's health through the following procedures:

A. Examination at the Time of Employment:
(1) For proper placement.
(2) For improvement of health defects found.

B. While Working:
(1) Referral to private physician or agency for treatment of defects found.
(2) Supervision of the working environment by frequent periodic plant surveys.
(3) Treatment and advice regarding occupational complaints and non-occupational ones of an emergency nature.
(4) Periodic examinations (approximately once each year and more frequently if necessary).

C. When Absent from Work—Examination after return from illness.

D. Through General Health Procedures:
(1) Nutrition program.
(2) Health education program.
(3) Group health and accident insurance program.
(4) Good record keeping.

E. A Health Consultation Service—regarding health problems of any nature either of the worker or his family and acquaintances.

An attempt was to be made to have all of these activities carried out in each plant. This would require the services of a plant physician and nurse and a plant medical department properly equipped.

Services Rendered by the Office

IN ORDER to simplify the operation of the program and as an aid in enlisting the participation of the desired plants, various services were offered by the Health Department for a definite period of time without cost, consisting of properly qualified public health nurses for in-plant nursing service, chest x-ray service, plant medical department records and health education materials. In addition, constant supervision and consultation services by the members of the Office of Industrial Health regarding any problem were also available.

Problems in Organization

HAVING defined the problem, the office set about to accomplish its aims. As the program gradually

Presented at the Annual Meeting of the NATIONAL CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS at Chicago, April 8, 1946.

evolved, the problems to be solved fell into various categories. In their approximate chronological order, these were the following:

A. Outline of plant program activities.
B. Arrange for qualified physicians in plants.
C. Arrange for qualified nurses in plants.
D. Set up standards for equipment and design of plant medical departments.
E. Obtain plant participation.
F. Obtain plant physicians.
G. Supply adequate record forms.
H. Time standards to be used.
I. Adequate first aid service.
J. Health committees.
K. Supply other needed services.
L. Supervise entire program adequately.

The Details

A. OUTLINE OF PLANT PROGRAM ACTIVITIES: This has already been done briefly (Heart of Program) and it should be repeated that the attempt was being made to give the small plants all the benefits of a health program as carried out in a large plant and to include all features of a health program which have been recommended by the various national organizations such as U. S. Public Health Service (Division of Industrial Hygiene), American Medical Association (Council on Industrial Health) and progressive management and labor organizations.

It was our experience that the degree to which all of the health activities in the plant were carried out successfully and the quality of the program depended to a great extent upon the interest and qualifications of the plant physician and nurse as well as the amount of time allotted in the plant to the program.

B. OBTAINING QUALIFIED PHYSICIANS:

The Office of Industrial Health from its very beginning realized that it needed the cooperation of the local Queens County Medical Society in handling the strictly medical phases of the program. The Society was prevailed upon to set up an active Committee on Industrial Health. The Chairman of the Committee maintained close liaison with the Director of the Office. The program was discussed with him and he in turn approved it and received the approval of the Comitia Minora of the Medical Society.

One general meeting of the Medical Society was devoted to the subject of industrial health with speakers of national prominence. After this meeting, a notice appeared in the Medical Society Bulletin asking for registration of physicians who were interested in a course of lectures in industrial health. A group of about 25 physicians responded. The course consisted of 11 one-and-a-half hour sessions held at the Medical Society Building two afternoons a week and covered most of the aspects of a complete industrial health program. Also included in the course was an observation visit to a plant medical department.

After the course was completed, each physician was interviewed by a committee and given a rating according to past industrial experience and training. In addition to this group, any other physicians having had special industrial experience or training and who were interested in industrial health, and also returning military veterans, were interviewed and placed on a list of physicians available for industrial health service. These physicians then formed a nucleus from which plants needing physicians could be supplied.

It was then planned that as additional physicians were needed, additional courses would be given and Medical Society members receiving industrial training elsewhere would also be added to the list.

C. ARRANGE FOR PROPERLY QUALIFIED NURSES: The Nursing Consultant of the Office interviewed various Health Department nurses and selected seven on the basis of personality, previous education and experience and interest in the program. At first young nurses within two to three years of graduation from nursing school were selected, but it was later realized that nurses with more mature judgment were preferable because of their experience in organization.

Once selected, these nurses were put through an orientation course of about six weeks which consisted of:

1. Frequent conferences with the nursing consultant and Director of the Office concerning the objectives of the program and methods to be used.

2. Observation in existing plant medical departments. About 15 plants of various sizes and types were used. These plant medical departments were advised of our purpose prior to the visits by our nurses. The observation period in each plant lasted from two days to one week depending upon the plant. Before visiting the plant, the nurse reviewed the office plant folder which described the plant medical program, the manufacturing processes and the plant problems which were under observation by the office. As the demonstration plants set up their medical departments, they were used for training new nurses.

3. Conferences with other agencies: (a) New York State Labor Department—Division of Compensation; (b) Voluntary health agencies, etc.

4. Conferences with the Office engineer and chemist concerning their methods of environmental control.

Thus nurses became available with some degree of training and experience. Once in the plants, they were under constant supervision by our office.

D. SET UP STANDARDS FOR EQUIPMENT AND DESIGN OF PLANT MEDICAL DEPARTMENTS: It was felt that in order for a plant medical department to function satisfactorily, certain standards of equipment and design would be necessary. The standards for equipment were outlined and were adequate for physical examination and emergency treatment.

The design of a plant medical department in each plant was an individual problem and depended upon plant circumstances and lay-out. In each case, the Director of the Office surveyed the plant for a most suitable location as soon as the plant indicated a desire for the program and offered suggestions in lay-out. Additional suggestions were offered by the plant physician as soon as he was chosen.

E. OBTAINING PLANT PARTICIPATION AND STARTING THE PROGRAM: In order to carry out our program, it was necessary to obtain plants without medical programs and also to limit the size of our plants to those below 500. This was done with the exception of one plant of about 700 where a first-aid program was already in existence under the care of the nurse, but the program was very unsatisfactory by all recognized standards.

As members of the office visited plants in the course of their official duties, the plants were asked to participate in a health program aimed at improving the health of the plant population. As the plant management signified its willingness, the plant was visited by the Director of the Office and the various necessary details were discussed. The plant management was told it would have to pay for the physician, for the construction and equipment of the medical department and for the clerical assistance as needed. All other necessary service would be supplied by our office, the plant nurse being supplied for one year.

F. OBTAINING A PLANT PHYSICIAN: When the plant

finally agreed to participate, the question of a plant doctor was discussed. If the plant had a physician of its own and he was interested in the program, a conference was arranged and the program was outlined to him. Frequent consultations between the plant physician and the Director of the Office were held as the program developed, concerning plant health problems.

If the plant did not have its own physician then a request was made to our office for one. This request was forwarded to the local County Medical Society, (Industrial Health Committee), which then submitted to the plant several names of physicians from its list of qualified physicians (as previously described). The plant then interviewed the physicians and selected one. This physician became Director of the plant program and frequent consultations were held with him also. Once having selected the plant physician, employees were notified of the new program, the plant medical quarters were constructed, a proper Health Department nurse was assigned to the plant. The plant union, if there were one, was notified of the program and the various plant health activities were begun. In some plants a foreman's meeting was held and the program also explained to them and their cooperation elicited.

G. PLANT RECORD FORMS AND REPORTS: Since this program was to be as uniform as possible in each plant, and since the program had to be evaluated in each plant, uniform record forms had to be devised to obtain necessary information. Plant management was asked what information it was interested in obtaining in order to evaluate the program at the end of the year. These suggestions were incorporated into the records. As the program developed, the record forms were changed as needed in order to improve them. These record forms were supplied to the plant without cost and appear to be operating satisfactorily.

From these forms two monthly statistical reports are obtained:

1. A monthly statistical summary of all plant health activities.

2. A monthly breakdown of all medical department visits by type and plant department.

In addition to copies of the monthly statistical reports, our office also receives a monthly narrative report and copies of the minutes of the plant Health Committee Monthly Meetings.

H. TIME STANDARDS USED: Since methods which could be applied to other plants were being worked out, an attempt was made at standardization of the amount of doctor's and nurse's plant time needed. When the program first started it was decided upon, after studying materials from numerous sources, to require three hours per week of doctor's in-plant time for every 100 employees and three times as much nursing time per week as doctor's time or nine hours per week per 100 employees. These standards have worked satisfactorily as a beginning, until it was demonstrated in the plant that they should be changed because of individual plant problems. At present, the ratio of doctor's to nurse's time is anywhere from one doctor hour for every two and a half nursing hours up to one doctor hour for every five nursing hours. In some plants the doctors have only spent about two hours per week per 100 employees instead of three as originally suggested, but it has been noticed that three hours per week per 100 employees of doctor's time is more satisfactory if a full program is to be carried out.

With nursing, about nine hours per week per 100 employees is a minimum if a good program is to be conducted. If plant problems are numerous this may increase to about 15 hours per week per 100 employees.

I. ADEQUATE FIRST-AID EMERGENCY SERVICE: Since in most of our plants, the medical service was only on a part-time basis, adequate provision had to be made for emergency care when the doctor and nurse were not in the plant.

This was done very satisfactorily by selecting one person in each plant who had had some first-aid training, instructing that person through the plant physician and nurse and placing that person in charge of a first-aid kit during the nurse's absence. This first-aid assistant was also instructed in proper recording of emergency complaints and treatment and all such emergencies were called back when the nurse arrived and were seen again by her or the plant physician when he was in the plant.

In addition to this emergency first-aid service, adequate ambulance provisions were also made.

J. HEALTH COMMITTEE: In order to facilitate the cooperation of the plant workers, a health committee was set up in each plant consisting of representatives of plant management and labor. A typical committee would consist of the following:

1. Plant executive—e.g., vice-president.
2. Plant manager.
3. Chief union steward.
4. Head of maintenance department.
5. Several workers.
6. Several foremen.

This committee had a chairman and secretary, met each month, and followed a definite agenda. Minutes were kept and copies were distributed to each member of the committee. In some plants, a sub-committee on "safety" was formed which inspected the plant for safety hazards and attempted correction. The chairman of this sub-committee was usually the maintenance man.

The committee members were usually chosen by top management and union officials in the plant. The doctor, nurse, and personnel director were ex-officio members of each committee.

K. OTHER NEEDED SERVICES: Most services in this program were supplied directly by the plant. Thus the plant physician did a complete physical examination including various laboratory examinations, such as: routine urine for sugar and albumin, and routine hemoglobin (Talquist or Sahli). Blood for serology was drawn routinely. The doctor and nurse made routine plant rounds and gave health consultations. The doctor also treated occupational conditions and non-occupational emergencies. The plant medical department referred all necessary employees for further care and also conducted a certain amount of health education.

Certain services which were part of the plant health program could not be supplied by these small plants. Thus, the routine blood samples were sent to the Health Department Laboratories for serology analysis. Similarly, chest x-rays were done routinely on each physical examination by one of two methods:

(a) Mass chest x-ray survey in the plant by portable Health Department x-ray apparatus.

(b) Following the survey, referral of new employees and those missed by the survey to a Health Department Chest Clinic at a local Health Center. Reports in all cases were returned to the plant physician.

In addition to Health Department diagnostic services, various consultation services were supplied by Health Department specialists such as: nutrition, sanitary and statistical. From our own office was supplied consultation service regarding environmental and occupational disease problems through our physi-

cian, engineer and chemist. Our office also assisted the Health Education program through Health Department materials (literature, posters, films and articles).

L. ADEQUATE SUPERVISION: The program in its early stages required constant supervision by the office physician (director) and consultant nurse. Frequent visits were made to the various plants involved, and the plant nurses met in the office of the Unit for frequent conferences two times a month.

When the program first started in each plant these consultations were most frequent (as often as every day) but, as the program progressed, the amount of supervision required was less.

What Are the Costs?

THE COSTS of this program are divided into various categories.

A. MEDICAL DEPARTMENT QUARTERS AND EQUIPMENT: This should be considered as a capital item and thus itemized on a long-term depreciation basis. The costs of the medical departments of the seven plants varied from $550 to $3,667 each, depending upon the desires of the plant. On a 10-year depreciation basis, this would amount to from $55 to $360 a year. A fairly satisfactory medical department was constructed and equipped for about $1000 (war cost). Operating costs of medical supplies are between $5.00 and $10.00 per month.

B. PERSONNEL:

1. *Physician*: The pay of the physician varied between $5.00 and $10.00 per hour for in-plant service. In a plant of about 100 employees, the physician was paid $1,200 annually for four hours of in-plant service per week divided into sessions of two hours each. In another plant of 200 employees the physician was paid $1,800 annually for five hours service per week divided into three sessions. The largest plant of about 700 employees paid its physician $4,500 for 20 hours of service per week divided into five sessions of four hours each. The average rate in the seven plants amounted to $7.00 per hour.

2. *Nurse:* The cost of the nurse in this program varied with the amount of salary paid, depending upon the length of service in the Health Department. On an hourly basis the nursing cost averaged $1.09. This compared with $1.50 which is the rate charged by the local visiting nurse service when nursing service is offered in blocks of three hours each. This $1.50, however, also includes several features which were not included in our Health Department rate, such as replacement in case of illness and compensation coverage for accidents.

3. *Clerk:* In only the larger plant was a clerk needed and, here, her services were only part-time. No special training was required and, with adequate instruction by the doctor and nurse, she performed satisfactorily. Since the clerk was only needed in one plant and on a part-time basis, this item has not been included in the costs of the program.

4. *Supervision:* All supervision was supplied by the personnel of the Office of Industrial Health. Since this service was available to all industries in the locality (it being the official health agency in the area) this cost was not charged directly to the program.

Other Cost Methods

INDUSTRIES have computed the costs of their medical department in several other ways:

1. *Per Capita Basis:*

Where the number of employees in a plant is relatively stable, this method has a direct relation to the per hour cost of in-plant service. Otherwise, with wide fluctuations, the amount of service required is greater than the computed average number of employees would require.

With this group of plants, the per capita costs of the program (cost per employee exclusive of capital cost of equipment) was $13.00. The cost of equipment would not add materially to this figure (on a 10-year depreciation basis it would only amount to about $1.00 per capita extra at the maximum). Of this $13.00 about 68% of the cost went for treatment and advice, 14% for physical examinations and 18% for other miscellaneous service.

2. *Per Visit Basis:*

The average number of visits to the plant medical department per employee in one month was .95. On the basis of one visit per month, the cost would be $1.09 per visit. This cost covers a more or less complete plant health service in a small plant and compares favorably with larger plants.

What Are the Benefits

GOOD HEALTH benefits the worker, employer and the community. The benefits derived from a plant health program such as ours can be divided into several categories, all with the purpose of achieving good health.

A. HEALTH BENEFITS:

1. There were 11,000 visits to the medical departments of the various plants during a period of 10 months. The various plant medical departments did not all start at the same time but were begun at some time between January and April. These 11,000 visits represent health care of all sorts and include diagnosis, treatment, advice, physical examinations (of which there were 1,800) and follow-up. Such a number of visits to medical departments and consequent exposure to doctor and nurse are bound to have their effect on the health of the individual, plant and community.

All diseases of non-occupational origin were referred for treatment to the private physician if possible, or to some other agency. Occupational conditions were treated in the plant if permission was given by the employee.

2. Serious diseases found and placed under treatment:

Cardiac	71	Gastro-intestinal	5
Diabetes	9	Cancer	4
Hernia	30	Neuro-mental	7
Renal	22	Severe anemia	3

3. Contagious diseases found and placed under treatment:

Tuberculosis	18	Syphilis	46
Malaria	3	Acute gonorrhea	2

4. Improvements inaugurated for the correction of plant hazards:

Protective clothing	5	Ventilating systems	3
Safety measures	2	Other	2

5. Nutrition improvement and health education programs are under consideration in all plants.

B. ECONOMIC BENEFITS:

1. *Reduction in Compensation Premiums:* Unfortunately one year is too short a period of time in New York State to determine reductions in compensation premiums, the premium rate being based on a three-year experience. However, three plants have already been told by their insurance carriers that there would be a substantial reduction in compensation premiums in the future. The other four plants will very likely have similar experiences.

2. *Lowering of Absences:* This factor also is difficult

to determine in one year's period, especially since it is difficult to set up absence recording in a small plant, and takes several months to inaugurate. It has been noticed however, that once absence recording is started, the reasons given for absence become more accurate and absence due to illness diminishes, while absences due to occupational injuries also diminish.

3. *Improvement in Plant Morale:* In every plant the employees have appreciated the medical program and have used the service extensively. One important factor effecting this service has been the confidential nature of the medical records. All medical records were kept locked in the medical department and no medical information was divulged to anyone other than the individual concerned. This improvement in morale was also aided by the Employee Management Health Committee which functioned in every plant.

Summary

HEALTH programs were organized in seven small plants varying in size from 70 to 700 employees and totaling 2,100 employees. The plants represented various types of industries such as food processing, chemical, machining, paint and printing. Their participation in the program was enlisted through discussion with members of this office which represents the official health agency in this community.

This program consisted of:

1. Complete physical examination of the worker upon employment including a routine chest x-ray, serology test, hemoglobin determination and urine examination.
2. Treatment of occupational conditions and emergency treatment of non-occupational ones.
3. Health consultation and advice regarding any health problem.
4. Periodic complete physical examination.
5. Suitable referral service to private physician or agency.
6. Periodic plant surveys.
7. Organized programs concerned with other health aspects, such as nutrition, health education, accident and absence studies.

The local medical society cooperated in furnishing physicians, who were qualified to some degree, to plants requiring such physicians while the New York City Health Department furnished suitably qualified nurses.

Standards of equipment and design were furnished to the plants to aid them in setting up their medical departments. In addition, standard plant medical department forms were furnished and used.

The initial time standards used as a guide were three hours of doctor's time per week per 100 employees and nine hours of nursing time per week per 100 employees. This standard varied somewhat in each plant as the program progressed, but can be used as an initial guide.

The costs of the service ran about $13.00 per employee per year, or about $1.09 per visit, excluding the initial capital cost of constructing a medical department which ran about $1.00 per employee. The doctor's costs were from $5 to $10 per hour of in-plant service while the nursing cost ran between $1 to $1.50 per hour of in-plant service.

A Health Committee consisting of representatives of labor and management was set up in each plant and helped materially in promoting employee participation and in the solution of plant health problems.

Health and economic benefits resulting from this program consist of:

1. Frequent and readily available consultation with plant physician and nurse.
2. Early diagnosis of minor and serious diseases and their prompt treatment.
3. Recognition of communicable diseases and their prompt treatment.
4. Control of hazardous working conditions.
5. Participation of the plant in group programs leading to improved health knowledge and practices.
6. Lowered compensation premium rates.
7. Proper sickness absence recording and control.
8. Improvement in plant morale.

Conclusion

AS A RESULT of our experience with an industrial health program as outlined by this office and beginning January, 1945, in a group of seven small plants ranging from 70 to 700 employees, and covering various types of industries, the following can be stated:

1. The large group of apparently healthy adults comprising the industrial population can be brought under proper health supervision and given the benefit of preventive health measures even though they work in comparatively small plants.
2. The program requires organization of various community groups, official as well as unofficial, such as the Department of Health, Department of Labor, Medical Society, Nursing Organization, Chamber of Commerce, Manufacturing Association and Labor Unions.
3. The program also requires proper plant organization.
4. The program is economically feasible.
5. A well organized health program requires constant supervision which can be suitably furnished by a local official health agency.
6. If properly conducted, various benefits accrue to the employee, employer and community.

Discussion

VICTOR HEISER, M.D., (Medical Consultant, National Association of Manufacturers): It has long been the desire of those who have been attempting to bring about more complete medical service in small industries to have authoritative figures as to the probable cost and the measurable benefits that might be expected. This is the first study of which I am aware in which there was participation by the Federal government, a city health administration and a state industrial hygiene service, all under the advice of a committee representing insurance companies, hospital groups, medical societies, chambers of commerce and manufacturing associations. Furthermore, the project had the great advantage of having the full cooperation of management and labor.

It may be seen from the paper just read that the average estimated cost is $13.00 per capita, plus an extra dollar if the cost of equipment is spread over 10 years. Previously a study by the National Industrial Conference Board placed the cost at $17.47. Before arriving at any definite conclusion as to cost, it seems highly desirable that similar studies should be made not only in different industries but also in different sections of the country. No doubt, the study now being made by DR. SAPPINGTON, under the auspices of the Industrial Hygiene Foundation, will throw considerable additional light on the cost of medical service in small industries under varying conditions.

The project included all of the features that the leaders in industrial medicine regard as essential, in other words: a doctor, industrial nurse, physical pre-placement examinations, follow-up of defects, frequent examination in case of exposure to toxic substances, first-aid, uniform records, technical engineering and chemical assistance, health education, and referral to private physicians of defects found.

There was also an over-all daily control by the medical director of the project and from whom a special consultation service was available. Among the total working force of 2,151, there were found 71 cardiac cases, nine diabetics

30 hernias, 22 renal cases, four cancer, seven neuro-mental cases, 18 tuberculars, three malarias, 46 syphilitics, two gonorrhea and many minor defects. This record shows conclusively how greatly the workers and management can benefit by proper treatment of the diseases found.

To my mind a most encouraging aspect of this report is that all of the industries participating in the study have expressed a willingness to continue the medical service at their own expense. Furthermore, the educational work has brought to the attention of other industries, at least in the Queens district, a desire to avail themselves of similar medical service.

The study, however, does not show in any conclusive way the measurable benefits that industry can expect. It said that the morale improved and there were so many people treated, and so on, but that isn't enough. We must have something that is measured in dollars and cents. Industry is a business, an economic organization, and it can't deal in generalities. Its business is to make a profit, and, in order to make a profit, you have to know what things are going to cost.

It is my hope that this study can be continued for at least another year so that we can measure these other benefits that industry has a just right to expect from the medical service. On the other hand, medical service has been very complete in taking into account all of the things that include the part of the doctor and the nurse. That has been very well worked out, records have been well kept, and, fortunately, records for all of the industries have been uniform.

The other encouraging thing about the study is this: I have been told by DR. MILLMAN that all of the industries that have participated in the program are willing to continue the program entirely at their own cost. It must be borne in mind that the cost of this experiment was largely borne by government services. Industry did supply the doctors, but the rest of the cost is largely met by government funds. Now they are sufficiently convinced that they got benefits and they are willing to continue it. I also believe that other industries in that section, at least in the Queens section, will be ready to continue the work. But I do hope that the experiment and the program can be continued another year so that we will have a measurable figure as to what an industrial program can do for industry.

Chest Conditions Simulating Silicosis

L. E. HAMLIN, M.D., F.A.C.S.,
Medical Director,
American Brake Shoe Company,
Chicago

IN RECENT years the recognition of true occupational fibrosis has become more difficult because of an ever increasing number of conditions which produce patterns in the roentgenogram resembling silicosis. These are by no means confined to diseases caused by the inhalation of dust but range all the way from certain heart afflictions to the exaggerated linear markings representing vascular changes in the lungs associated with advancing age. Their careful appraisal as a health consideration as well as an industrial complication therefore becomes more essential as new complexities appear.

The following classification of diseases whose x-ray pattern may be confused with that of silicosis is offered not as a complete listing but as one which includes those derived from a search of the available literature. Mycotic infections have been placed in the non-industrial group because the majority of them occur without any relationship to specific occupations. However, they do result, in some instances, from occupational exposure.

Presented at the Annual Meeting of the AMERICAN ASSOCIATION OF INDUSTRIAL PHYSICIANS AND SURGEONS at Chicago, April 11, 1946.

Chest Conditions Whose X-rays Simulate Silicosis

A. Industrial		
I. Organic	(a)	Byssinosis
	(b)	Bagassosis
	(c)	Tabacosis
II. Inorganic	(a)	Anthracosis
	(b)	Radiopaque Deposits—
		Barium (Baritosis)
(Inert)		Iron (Siderosis)
		Tin
(Toxic)	(c)	Beryllium
(Proliferative)	(d)	Asbestosis
B. Non-Industrial		
I. Mycotic	(a)	Aspergillosis
	(b)	Moniliasis
(Yeasts	(c)	Wood dust spores
and	(d)	Coccidioidomycosis
Molds)	(e)	Blastomycosis
	(f)	Actinomycosis
II. Miscellaneous	(a)	Miliary tuberculosis
	(b)	Sarcoidosis
	(c)	Mitral Stenosis
	(d)	Cancer (Metastases)
	(e)	Vascular changes
	(f)	Miliary calcicosis (Wheatena)
	(g)	Polycythaemia Vera

Since the year 1818 certain pulmonary conditions are believed to have developed as a result of exposure to dust in the cotton industry. Reports from Europe as well as from this country indicate that prolonged exposure to high concentrations of cotton dust have caused definite symptoms and permanent disability. In England the Byssinosis Act of 1940 awards compensation for total disability following periods of exposure in cotton mills up to 20 years. In the United States the existence of byssinosis as an occupational disease is questionable. A few cases have been reported from Eastern textile mills but after a very thorough investigation of the cotton industry in Mississippi in 1944, Ritter and Nussbaum were unable to demonstrate any x-ray findings characteristic of the disease, either in employees in the cotton mills or in the files of private roentgenologists or the State Tuberculosis Sanatorium. They did find certian allergic individuals who showed very definite asthmatic reaction to high concentrations of cotton dust, but otherwise clinical evidence was lacking. Postmortem and histological examinations revealed nothing of a specific nature. They concluded that "no evidence was found to clarify or even support the existence of byssinosis as a clinical entity arising among employees exposed to Upland cotton in a cross section of that industry in Mississippi."

Bagassosis is the name given to an industrial disease observed in a few workers in the sugar-cane industry. The disease is described by Castleden and Hamilton-Patterson and also Gillison and Taylor in the *British Medical Journal* in 1942. They state that "bagasse," a waste product after the sugar has been extracted, is used in the manufacture of board. The material is crushed or shredded into small fragments, the fibres of which contain about 1% protein and 5 to 7% silica. Symptoms after one to two months' exposure, consisted of dyspnoea, cyanosis, violent cough, scanty sputum, occasionally blood streaked, and mild elevation of temperature. The x-ray suggested a bilateral pneumonia of the influenzal type which either resolved completely after several weeks or left the patient with some degree of residual fibrosis. As in the case of byssinosis an allergic response in the lungs to this dust was a definite possibility.

Tabacosis has been described as far back as 1865 as producing disease in the lungs. However, very few

cases seem to have been reported. In Argentina and Brazil the condition is considered an occupational disease and is compensable. C. F. Long, after a period of 10 years experience among 4,000 workers in the tobacco industry, made a special investigation of over 1,247 who had been subjected to tobacco dust and compared them to 1,007 who had never been exposed. He concluded that "Tabacosis does not develop in the lungs of those who inhale tobacco dust."

Some inorganic dusts produce alterations in the lungs which are represented by a mild accentuation of the linear markings in the x-ray. Included in this group are dusts from such materials as limestone, marble, talc, chalk, calcined magnesium for insulation, furnace linings, carbon and cement. Since they are relatively inert and non-productive of symptoms, their presence is only detectable by x-ray and the shadows observed may resemble the exaggerated lineal pattern of pre-silicotic stages.

Dusts from substances like barium, iron and tin, can result in radiopaque deposits in the perivascular lymphatics and interalveolar septa which cast shadows in the roentgenogram closely simulating those of discrete, nodular silicosis. The deposits have real significance from the standpoint of litigation but are of no apparent consequence as far as health or disability is concerned. In 1938 Sander and Enzer described findings in welders who had no known exposure to silica but whose chest x-rays showed marked nodulations almost indistinguishable from silicosis which were demonstrated to be the result of inhalation of iron oxide fumes. The borders of these shadows were generally more sharply defined than those of silicotic nodules and the hilium shadows less prominent. Postmortem findings on one case, who died from accident, gave no indication of fibrosis either grossly or histologically. On microscopical section, deposits observed about the blood vessels were simple pigmentations which gave the typical Prussian Blue reaction for iron. Development of clinical symptoms and susceptibility to complicating infection were lacking.

In recent years our own experience with foundry grinders and burners seems to indicate that much of the nodulation observed in films of men working at these occupations does not represent actual silicosis but is the result of excessive exposure to iron oxide, similar to that described by Sander. Clinical findings and occupational exposure are not consistent with the present conception of silicosis. The analysis of representative samples of air borne dust by x-ray diffraction, petrographic and chemical examination (over a three year period) indicates that there is not enough free silica in the atmosphere to constitute a definite hazard but enough iron oxide in finely divided form does exist to produce the pattern noted in the x-ray. Experimental work is now being carried on in an effort to determine the effects of this particular dust on laboratory animals.

A comparatively new disease entity caused by beryllium and its compounds has recently been established. Beryllium is a strategic metal which was of considerable importance during the war in the production of precision instruments. The exact effect of this metal on the tissues of the body has not been determined but its action is thought to be a toxic one, producing dermatitis, nasal irritation, skin ulcer and chemical pneumonitis. Van Ordstrand and his associates have reported their observations and findings in 170 cases of poisoning among workers in the beryllium industry. They noted that the disease was not limited to men in one type of work or in one phase of production and the incidence and severity were proportional to the degree of exposure and chemical irritation of dusts and fumes. The chemical pneumonitis which developed in 38 workers represented the severest form of the disease and progressed without exacerbation or remission, either to complete recovery or to death. Roentgenologic changes in the lung fields did not appear until two to three weeks after the onset of symptoms and physical signs. Changes were bilateral and diffuse in all cases and varied with the severity of the disease. In order of appearance the changes were (1) diffuse haziness of both lungs, (2) development of soft irregular areas of infiltration with prominence of peribronchial markings, (3) absorption of soft infiltration and appearance of discrete large or small conglomerate nodules scattered throughout both lung fields and (4) clearing of the lung fields after one to four months. Necropsies on five patients showed a typical pneumonitis. Fibroblasts with evidence of organization were present although in patients who recovered, no fibrosis was evident on roentgenologic examination of the chest.

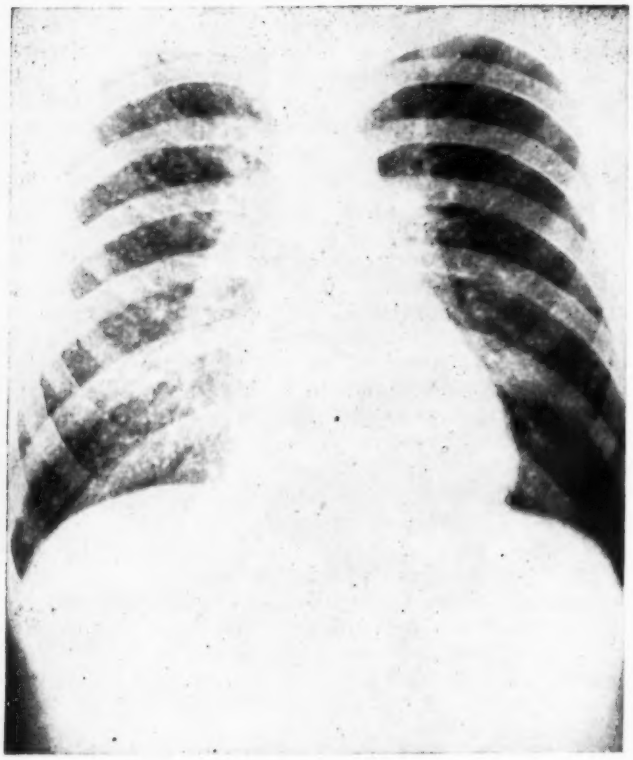
The so-called fibrosis due to asbestos fibres in the lungs has long been recognized as an occupational disease. It does not seem to occur as frequently as the publicity it has received would indicate. A hydrated magnesium silicate, it is believed to produce its effects through mechanical plugging of the alveoli by long fibres (over two microns) which have an irritating effect on the lung tissue. There is some associated fibrosis which is responsible for the characteristic ground glass appearance observed in the roentgenogram. The greatest occupational hazard exists in mining, handling and crushing crude asbestos.

Fungi are filamentous plants of simple structure which include a variety of yeasts and molds capable of producing disease in the lungs as well as in other structures of the body. A common fungus, aspergillus, consists of many species of molds one of which, aspergillus fumigatus, attacks the lungs and is responsible for the disease known as aspergillosis. Monilia albicans, a yeast-like fungus, may produce primary lesions in the lung or sometimes gain access as a secondary invader. Infection with any type of this mold produces "Moniliasis," a disease which may affect the skin as well as the pulmonary structures. Coccidioidomycosis, Sporotrichosis and Blastomycosis are due to yeast-like organisms which generally cause a progressive infection affecting the mucous, cutaneous, subcutaneous, osseous and visceral structures. Involvement of the lungs does occur in some cases directly through inhalation of spores, and sometimes fungi may be superimposed on existing diseased area.

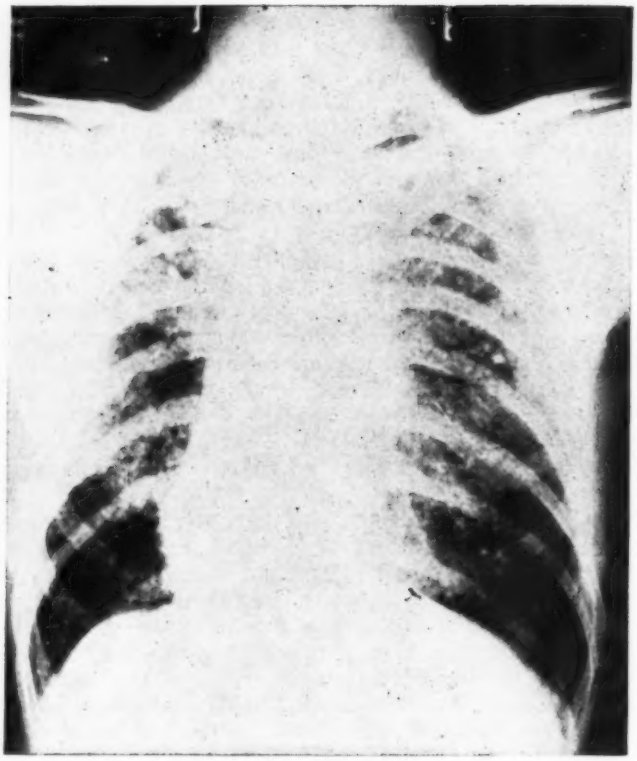
In 1931 Towey, Sweany and Huron described a previously unrecognized disease which occurred in 35 workers who came in close contact with dust from maple logs. The logs had been cut for more than a year and were not disturbed throughout a hot, moist summer, a circumstance favoring fungus growth. The dust, which was of the consistency of lamp black, accumulated beneath the cork layer of the bark and was liberated during peeling or sawing operations. On examination it was found to be pure spores of a fungus tentatively classified as nummularia or coniosporium corticola.

Symptoms produced by inhalation of the spores were acute and asthmatic in character. They included dyspnea, cough, loss of weight and expectoration. The condition was considered an allergic response to sensitization by the fungus combined with a possible toxic element in the spores.

X-ray findings were proportionate to the degree of dyspnea observed and consisted of definite mottling



Miliary Calcification, Calcicosis or "Wheatena"

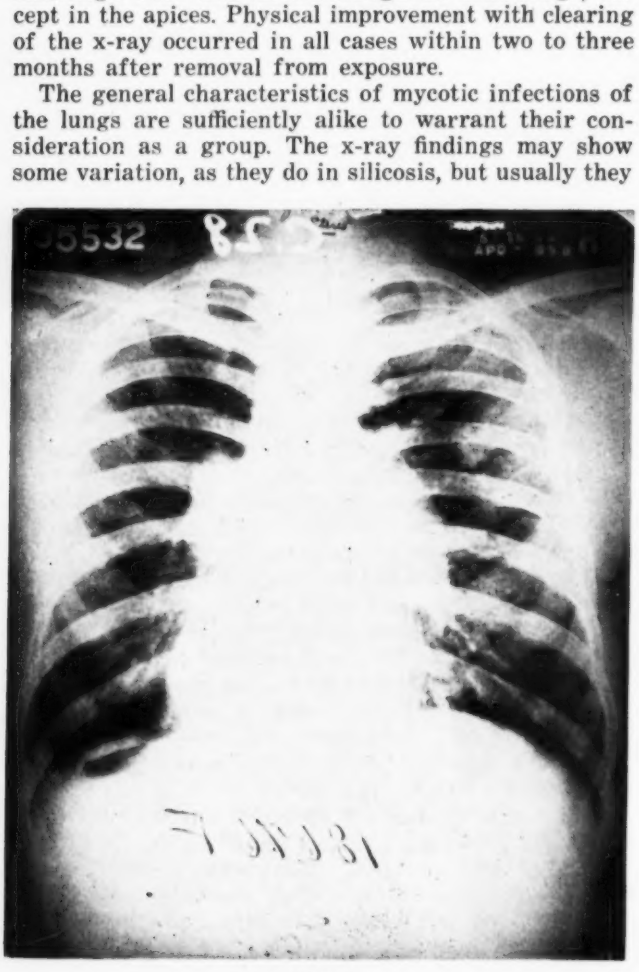


Miliary Tuberculosis

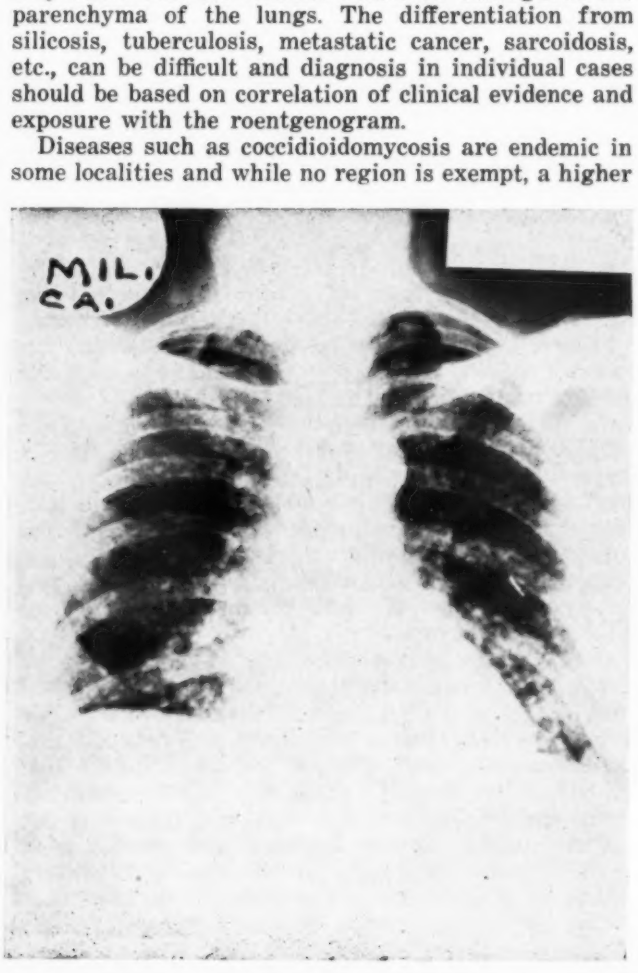
throughout the lower halves of the lungs with increased hilar, basal and trunk shadows. Peribronchial markings were increased throughout both lungs, except in the apices. Physical improvement with clearing of the x-ray occurred in all cases within two to three months after removal from exposure.

The general characteristics of mycotic infections of the lungs are sufficiently alike to warrant their consideration as a group. The x-ray findings may show some variation, as they do in silicosis, but usually they range from accentuated linear markings to miliary-sized densities which may coalesce. Advanced cases may show discrete nodules scattered throughout the parenchyma of the lungs. The differentiation from silicosis, tuberculosis, metastatic cancer, sarcoidosis, etc., can be difficult and diagnosis in individual cases should be based on correlation of clinical evidence and exposure with the roentgenogram.

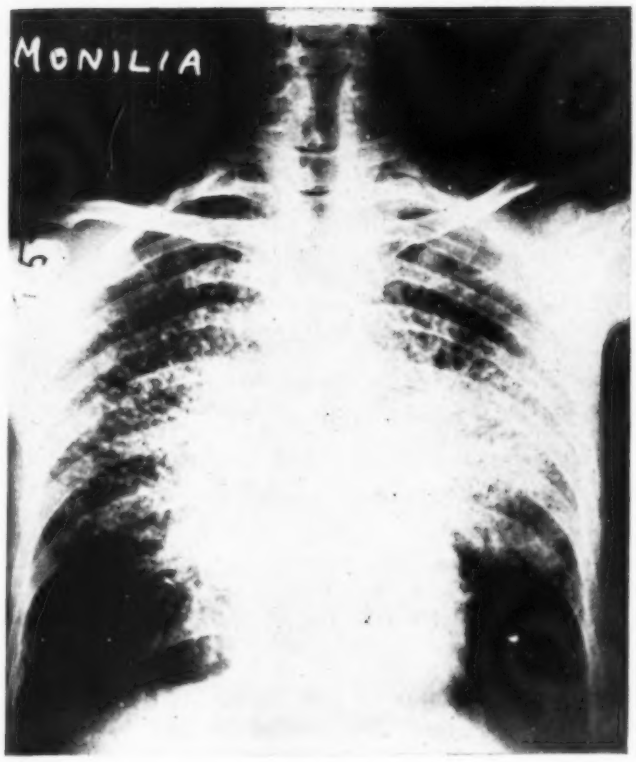
Diseases such as coccidioidomycosis are endemic in some localities and while no region is exempt, a higher



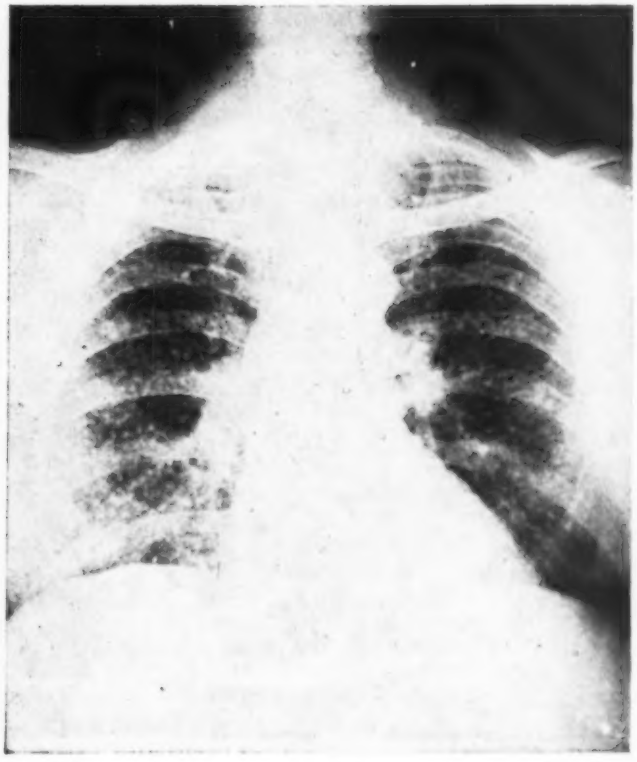
Sarcoidosis



Metastasis-Carcinoma



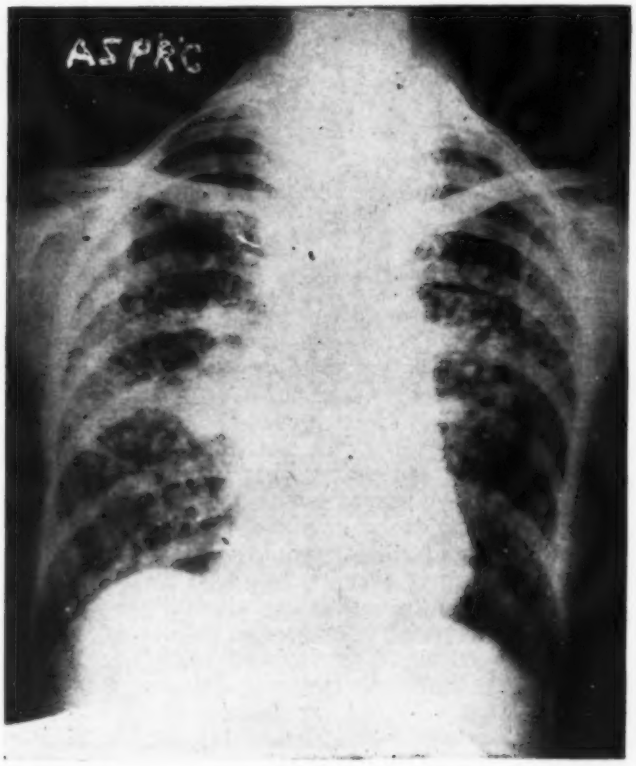
Moniliasis



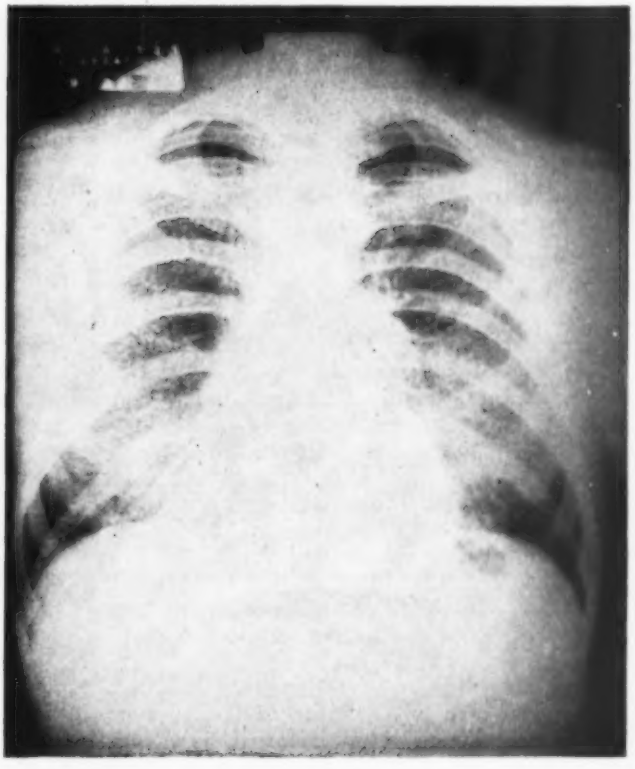
Silicosis

incidence occurs in certain areas. There does not appear to be any occupational prevalence, but cases of mycotic infection do occur in certain industries. Recently a case of primary bronchopulmonary aspergillosis has been reported by Coe as an occupational disease. It occurred in a worker at the Chicago Stockyards who had been in prolonged contact with heavy concentrations of dust from the yards which was mixed with hay, grain, corn and straw. Physical and x-ray findings indicated pulmonary fibrosis and aspergillus fumigatus was isolated from the sputum. An award for compensation was granted and upheld by the Industrial Commission of Illinois. As far as could be determined this is the first case of its kind to be tried before an industrial commission in any state of the union and to be declared an occupation disease.

Although fungus infections are rather rare it is felt by many observers that they may be more prevalent than is supposed. Most of them respond to iodide therapy and the x-ray shadows usually disappear entirely.



Aspergillosis



Siderosis

Coccidioidomycosis is endemic in central California, parts of Arizona and Texas. Infection with Coccidioides immitis has been known for some 50 years and the fungus, according to Emmons, has been isolated from soil and small rodents. Winn and Johnston state that the disease was recognized only in its fatal granulomatous form up till 1937 when the existence of a benign primary type was described by Dickson. There are no pathognomonic symptoms of the initial infection but those present closely resemble influenza or bronchopneumonia. The roentgenogram shows discrete nodular opacities or confluent areas of pneumonitis usually in the bases of the lungs. Pulmonary cavities may appear and show a tendency to persist or resolve. They may easily be confused with tuberculosis. Recognition depends on the possibility of exposure, x-ray findings, the positive cutaneous reaction to coccidioidin and the identification of Coccidioides immitis spherules in the sputum.

Cases of blastomycosis and actinomycosis of the lungs have been reported in which generalized miliary nodulations were observed in the x-ray and which were confirmed at autopsy as being due to those types of fungus.

The similarity between the x-ray appearance of a number of non-industrial diseases and silicosis is sometimes remarkable and presents a problem in diagnosis. As previously stated, we must resort to the clinical findings and history of exposure in order to arrive at a definite conclusion. Miliary tuberculosis, metastatic cancer of the lungs and vascular changes associated with age are in this category but careful evaluation of the factors mentioned should eliminate the difficulties of interpretation.

Sarcoidosis is a disease which in certain stages of lung involvement presents an x-ray pattern resembling that produced by silicosis. It is a systemic condition which can affect any part of the body and suggests a tubercle-like infection of unknown origin. First described in 1875 as a skin condition it was found later that the process attacked the lungs, bones and other organs including mucous membranes and lymph nodes. King states that histologically the lesions are like those of tuberculosis, even to the presence of giant cells, but there is no caseation, tubercle bacilli are very rarely found either by staining methods or animal inoculation and tuberculin tests, even with strong dilutions, are usually negative. Longcope and Pierson were unable to demonstrate the presence of fungi in the lesions.

According to Katz, Cake and Reed, sarcoidosis is characterized clinically by widespread involvement of one or more organs, with few constitutional manifestations. It begins insidiously in early adult life or childhood and usually pursues an indolent course. The skin lesions are of several types occurring most frequently on the face, arms and legs but at times widespread. The commonest finding is enlargement of the superficial lymph nodes. Pulmonary lesions are common and marked bilateral, symmetrical, enlargement of the hilar and peribronchial lymph nodes is often the only pulmonary manifestation. A frequent type is a nodular infiltration distributed bilaterally, granular in appearance and resembling miliary tuberculosis. A soft infiltration resembling caseous pneumonic tuberculosis is found at times and cavity formations may be present.

These investigators further state that x-ray films of the chest are not a guide to the severity of the disease since extensive pulmonary infiltrations may be accompanied by little evidence of a disseminated process and may resolve completely whereas a slight pulmonary involvement may be associated with extensive lesions in other organs, resulting in serious disability.

Apparently sarcoid lesions of the lungs have a tendency to resolve, leaving little or no evidence of residual fibrosis. In King's series of cases, the lesions in the mediastinal nodes and lungs tended to clear in an average time of 22 months.

Gardner recently stated: "While this disease occurs here and there throughout the population at large it has frequently been attributed to pulmonary irritants of industrial environments. Recently a considerable number have been found in industries using beryllium and its compounds. It has not occurred in every plant using these materials. It has not been possible to reproduce a sarcoidosis with beryllium compounds in animals." He concluded that much must be done before it could be stated that sarcoidosis is an industrial disease.

In 1944 Hurst, Bassin and Levin presented five cases of rheumatic mitral stenosis whose chest x-rays showed linear and nodular patterns which might easily be confused with silicosis. In fact, on two of these a presumptive diagnosis of pneumoconiosis was made, while on another, acute miliary tuberculosis was thought to be responsible for the shadows observed in the roentgenogram. All five cases were practically asymptomatic and without pulmonary signs and were discovered by chance or through routine survey films in draftees. The nodular and exaggerated linear patterns in the x-rays were variously ascribed to engorged blood vessels "caught on end," vascular engorgement throughout the pulmonary fields, local areas of perivascular fibrosis with deposition of hemosiderin pigment, hypertrophied vessels caught in horizontal section, or calcium deposits as the result of healing of multiple small infarcts sometimes attendant upon severe passive congestion.

In the *Lancet* of September 29, 1945, D. A. Hanson reported a case of mitral stenosis in which the x-ray films showed diffuse fibrosis of the lung with cardiac enlargement in a man aged 39 who complained of severe nocturnal dyspnea and dyspnea on exertion. He was a bricklayer for 15 years and worked as a sandblaster for five years and then returned to bricklaying. He died from congestive heart failure. Autopsy revealed no macroscopic features of silicosis. There was a definite mitral stenosis.

Another x-ray condition frequently observed by those reviewing large numbers of chest x-ray films is the appearance of multiple, dense, sharply defined nodules scattered throughout the lung fields and described as miliary calcification, calcicosis or "Wheatena." These patterns appear to have a geographical distribution, being seen more frequently in the x-rays of people living in certain states such as Missouri, Mississippi and Kansas. The nodules are thought to be the result of healed infection whose identity is obscure but their definite etiology has not yet been established. This particular roentgenographic finding apparently has no clinical significance and does not present a problem from the standpoint of diagnosis.

The detection of silicosis is not an easy matter and its presence is too frequently based on the x-ray findings alone. While the roentgenogram still provides the best grounds on which to express an opinion, it is obvious that an adequate employment history, substantiated by dependable estimations of exposure to hazardous dust, is essential for accurate differentiation of occupational fibroses. Atmospheric contamination revealed by counts and analysis of air-borne dust for free silica and number of harmful sized particles,

should be given full consideration in the interpretation of the x-ray. Only by correlation of all the factors can one be reasonably sure that his diagnosis is correct.

Bibliography

RITTER, W. L., and NUSSBAUM, M. A.: Occupational Illnesses in Cotton Industries II. *J. Indust. Hyg. & Tox.*, 27:2, 47, February, 1945.

CASTELDEN, L. I. M., and HAMILTON, J. L.: Patterson Bagassosis: An Industrial Lung Disease. *Brit. Med. J.*, 2:478, October 24, 1942.

GILLISON, J. A., and TAYLOR, F.: Bagassosis: Further Notes on Four Cases. *Brit. Med. J.*, 2:577, November 14, 1942.

EMMONS, C. W.: Isolation of Coccidioides from Soil and Rodents. *Pub. Health Rep.*, 57:109, January 23, 1942.

SANDER and ANZER: Chronic Lung Changes in Electric Arc Welders. *J. Indust. Hyg. & Tox.*, 20:5, May, 1938.

VAN ORDSTRAND *et al*: Beryllium Poisoning. *J.A.M.A.*, 129:16, December 15, 1945.

KATZ, SOL, CAKE, C. P., and REED, H. R.: Sarcoidosis. *New England J. Med.*, 229:498, 508, September 23, 1943.

KING, DONALD S.: Sarcoid Disease as Revealed in the Chest Roentgenogram. *Am. J. Roentgenology & Radium Therapy*, 45:4, April, 1941.

GARDNER, L. U.: The Diagnosis of Silicosis. *Indust. Hyg. Dig.*, 9:11, November, 1945.

LONG, C. F.: Tobacco Dust and the Human Lung. INDUSTRIAL MEDICINE, 8:9, September, 1939.

COE, G. C.: *Ann. Int. Med.*, 23, 423-425, September, 1945.

TOWEY, J. W., SWEANY, H. C., and HURON, W. H.: A Severe Bronchial Asthma Apparently Due to Fungus Spores Found in Maple Bark. Personal communication.

HANSON, D. C.: Mitral Stenosis and Silicosis. *Lancet*, 13:2, September 29, 1945.

Coordination of Official Industrial Hygiene Program with Other Agencies

LLOYD M. FARNER, M.D.,
Head,
Industrial and Adult Hygiene Section, Division of State of Washington Department of Health, Seattle, Washington

AS YOU know, industrial hygiene was a very popular fad during the war. Those few people who were trained in this field and who were associated with organizations equipped to give a worthwhile industrial health service were attempting to meet the needs in this connection. In addition, practically every other official or voluntary agency that could, by any stretch of the imagination, consider industrial hygiene to be within its province, also entered the field. As a result, industry was confused and frustrated with numerous agencies clamoring to survey the health conditions of a given plant. Most of these agencies lacked experience and were poorly equipped in the field of industrial hygiene.

Because of the resultant duplication of effort and the lack of coordination those agencies able to perform a worthwhile service were often not fully utilized. This situation was especially acute where the official industrial hygiene unit was created or reactivated during the war, as was the case in Washington, Oregon and others. There had been no opportunity to acquaint management with the type of service available before management woke up to find 20-odd agencies rapping on its door.

In the light of these circumstances and with the multitude of problems confronting industry at that time there was an obvious and urgent need that the work of these agencies be correlated in an attempt to bring some order out of the chaos. This was requested by the industries of our state of Washington and was entirely in line with the thinking of the Industrial and Adult Hygiene Section.

Representatives of the numerous agencies, 21 to be exact, known to be concerned with problems of health and safety in industry, together with representatives of labor and management, met on several occasions in the summer of 1944 for the purpose of exchanging information about their respective activities and complying with industry's request for their correlation. At first no one of the agencies was fully aware of the extent to which its activities were being duplicated by others.

The industrial and labor representatives suggested that in addition to developing a plan for correlating and coordinating their activities the several agencies establish an information center that could on request apprise labor and management which agency could best help them with a specific problem.

These suggestions were whole-heartedly endorsed by all agencies represented since it would assist them as well as management and labor. Consequently, a five-man executive committee was selected and given sufficient latitude to get the plans in operation.

The committee immediately sought information concerning the in-plant and community aspects of each of the agencies' activities in regard to the control of occupational diseases, tuberculosis, venereal disease, other communicable diseases, safety, sanitation, nutrition, and in-plant medical, nursing, first aid and dental facilities. The following questions were asked of each agency:

1. Do you give advisory service and assistance in any of the eight fields named above? Which ones?
2. Do you make in-plant inspections or investigations? If so, in which field or fields of activity?
3. Do you initiate or stimulate health programs relating to any of these activities?
4. What power or authority do you have to enforce recommendations or standards?
5. Do you maintain liaison with and cooperate with other agencies interested in the same fields of industrial health you are actively engaged in?
6. Are your reports confidential in nature or could the results of your investigations be made available to other agencies in the interest of limiting duplication of effort?

All of the agencies involved cooperated in a splendid manner in providing the information desired. Following the analysis of the data thus obtained, five committees were established in order to determine who should handle the various industrial health problems as they arose. Separate committees were set up to consider safety, sanitation, occupational disease, communicable disease including tuberculosis and venereal disease, and the combined in-plant medical, nursing, first aid, and dental facilities. Each agency which had indicated an interest in any of these five fields was invited to be represented on the committee dealing with that particular subject.

Each committee met promptly and explored its responsibilities with regard to such activities as inspection, investigation, education, law enforcement and certain other more specialized phases of the over-all problems of industrial hygiene. The committees decided in each case whether the responsibilities of an agency were of a primary or secondary nature and whether the agency was legally required to perform certain duties. Using this approach it became a comparatively easy matter for each agency to see where it belonged in the over-all picture, and for each to agree to utilize its facilities to attain the most effective results.

Each committee established itself on a supposedly permanent basis with the understanding that it would meet to handle future questions of how to approach situations not covered by policies previously set up.

The several agencies also agreed that the Industrial and Adult Hygiene Section of the State Department of

Presented at the Annual Meeting of the NATIONAL CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS at Chicago, April 8, 1946.

Health should serve as the information center mentioned above, through which the activities of all agencies participating in any field of industrial health would be cleared.

Actually, the plan was not utilized to any appreciable extent after being set up, but nevertheless considerable good resulted. A number of agencies realized that there was no justification for their duplicating health functions already being carried out by qualified and experienced people. These for the main part dropped out and apparently became interested in other fields of endeavor. Others were disbanded following cessation of hostilities. It was not long, therefore, until the 20-odd agencies were reduced to about a dozen permanent organizations, all of whom now feel a closer kinship as a result of these wartime experiences. We know what each is best able to do and each is cooperating with the others and with labor and industry to make the State of Washington a safer and healthier place in which to work and live.

Although much of the foregoing discussion relates to a chaotic wartime condition, perhaps it has a worthwhile application in time of peace. The simple procedure of sitting down together at the conference table can still be applied to effect the correlation of activities of Federal, state and local agencies in the field of industrial health. By this means flagrant overlapping of services can be prevented.

We, in the State of Washington Departments of Labor and Industries and of Health, are particularly pleased with the effective coordination of the efforts of our two departments. Both are primarily interested in protecting the health and safety of our industrial workers and in providing those who are injured in the performance of their work just consideration as provided by our workmen's compensation laws. Although we have worked together within certain limitations from the inauguration of the present Industrial and Adult Hygiene Section there were, until recently, many things to be desired. For example, the findings of the industrial hygiene investigations by the Department of Health were not available to the Department of Labor and Industries, and the resources of our Section were not being utilized in assisting with determining which of the reported occupational diseases were actually of occupational origin. Industry, labor and the medical profession, desiring a closer correlation of effort, instructed their representatives, meeting together as an advisory committee to the Industrial and Adult Hygiene Section, to urge the adoption of a plan whereby the closest possible coordination of efforts of the two departments could be effected. This request has resulted in the adoption of the following agreement:

Agreement

—Between the Department of Labor and Industries and the Department of Health to Effect a More Efficient Integration and Coordination of Services for the Protection of the Health and Safety of Industrial Workers in the State of Washington—

Preamble

UNDER the statutory law of the State of Washington the two departments have a common responsibility of protecting the health and safety of industrial workers.

It is desirable and necessary to discharge this responsibility with the maximum of efficiency and thus avoid duplication of services.

This purpose can best be served through a cooperative approach based on mutual understanding and consent.

Under the present plan, while there is a fine spirit of cooperation in evidence, something more tangible and binding in the interests of integrating and coordinating the functions of the two departments is indicated to overcome the inadequacies that are recognized. To accomplish this the following principles and policies are herewith established through the authority vested in us by the Governor of the State of Washington to guide program planning, and personnel relationships.

Program Planning

INDUSTRIAL ACCIDENT CONTROL: The Department of Labor and Industries has the primary responsibility for the prevention of industrial accidents. The Department of Health shall assist by calling to the attention of the Department of Labor and Industries defects in the safety programs encountered in industry and shall contribute to the broad and extensive safety educational program of the Department of Labor and Industries for Management and Labor, through which a great deal can be accomplished in effecting corrections of faulty conditions. Furthermore, the Department of Health shall assist in extending this educational program to certain portions of the population not ordinarily served by the Department of Labor and Industries.

OCCUPATIONAL DISEASE CONTROL: While the Department of Health is charged by statutory law with the responsibility for the control of all preventable diseases the Department of Labor and Industries is specifically charged with the responsibiilty for the control of occupational diseases. Thus, since both departments have responsibiilities for the control of occupational diseases the services of the Department of Health shall be utilized for the detailed investigation and evaluation of occupational disease problems and the Department of Labor and Industries shall, upon receipt of copies of the reports of such investigations, enforce compliance with recommendations made therein.

Copies of reports of investigations requested by the Department of Labor and Industries shall be given to that department, whereas, copies of other reports shall be given to the Department of Labor and Industries only with the consent of the industrial plant involved.

Both departments shall be responsible for the locating of health hazards in industry and for following through to determine compliance with the recommendations of the Department of Health.

The Department of Health has a broad and extensive educational program relative to the control of occupational diseases. The Department of Labor and Industries, through its contacts with labor and management shall contribute to this program by disseminating such material as will be determined to be appropriate.

The Department of Health shall at all times keep abreast of developments relative to occupational disease standards and shall, when deemed advisable, recommend that the Department of Labor and Industries hold public hearings as provided for by law to consider the revision of any portion of the standards contained in "Safety Standards for Protection Against Occupationally Acquired Diseases" which may become outmoded, or to consider the adoption of additional standards, and to provide expert testimony as may be required.

In order to accomplish a more effective control program through investigation of reported cases of occupational diseases both departments shall request physicians to report to them within 48 hours of the time the worker alleges his illness to be of occupational origin or of the time the physician suspects the condition to be caused by the worker's occupation. Through such reports information relative to possible health hazards will be received and appropriate control measures inaugurated much more promptly than is possible if reliance is placed solely upon the claims for compensation, the receipt of which is frequently delayed.

OCCUPATIONAL DISEASE COMPENSATION: Compensation for occupational diseases is the responsibility of the Department of Labor and Industries.

To assist the Department of Labor and Industries in the discharge of this responsibility the following services, through the facilities of the Department of Health, shall be provided:

1. Render professional opinion as to whether it is reasonable to suspect that the condition for which the claim is submitted resulted from the claimant's employment as represented, and provide occupational disease consultant services.

2. When requested by the Supervisor of Industrial Insurance or in the event the decision of the Division of Industrial Insurance on a given case is contested, to supply factual data on the basis of whether it is occupational in origin as represented, to a panel of physicians especially qualified to consider this issue.

This panel shall then report its findings to the Supervisor of Industrial Insurance or to the joint board as may be indicated by the status of the claim.

The plan for securing this panel of physicians shall be as follows: The Washington State Medical Association shall be requested by the Department of Labor and Industries to establish annually a list of physicians representing specialties in the various fields of medicine and surgery and including general practitioners, from which a panel of three shall be selected by the Supervisor of Industrial Insurance to consider any given case. In the interests of all concerned every effort should be made to select the membership for the panel from those fields of medicine and surgery best qualified to consider the merits of the case in question.

Physicians selected to serve on these panels shall be compensated by the Department of Labor and Industries.

NON-OCCUPATIONAL DISEASE CONTROL: The Department of Health has the responsibiilty for the prevention and control of non-occupational diseases. However, in this connection, the Department of Labor and Industries through its relationship with labor and management shall contribute to both the educational and control programs of the Department of Health as determined to be appropriate.

Personnel Relationships

IN ORDER to accomplish the purpose of this cooperative program it will be necessary to realign the responsibilities of certain present personnel in both departments and to employ some additional personnel.

Over-all integration and coordination of this program will require the services of a qualified person, thoroughly conversant with the program of both departments and with a broad background of training and experience in the fields of public health and industrial medicine, to serve as Coordinator and as Medical Consultant for Occupational Diseases to the Department of Labor and Industries. This individual shall be appointed by the concurrent action of the directors of the two departments and shall meet the same minimum qualification requirements of the Department of Health as is required for the Position of Head of the Industrial and Adult Hygiene Section. The Head of this Section may in addition to his other duties occupy the above-named position of Coordinator and Medical Consultant.

Additional personnel employed shall also meet the same minimum qualification requirements for positions in the Department of Health similar to those they will occupy in this program.

The offices of the Department of Health shall be headquarters for such additional personnel unless in the opinion of the Coordinator and Medical Consultant the program may be more effectively accomplished from offices located elsewhere in the state. In such instances changes in official station shall be approved by the directors of the two departments.

To assist in the effective operation of the principles and policies established herein, the Governor of the State of Washington shall be requested to appoint an advisory committee on industrial health and safety and to name a chairman thereof. This committee shall meet at the call of the chairman and shall function solely in an advisory capacity to give assistance in the formulation of broad policies governing the relationships of the two departments with labor, industry and the medical profession in so far as the execution of this cooperative program is concerned.

The committee is to be composed of representatives of labor, industry and the medical profession and shall promote a proper understanding of the objectives, procedures and policies of this program among the groups they represent.

The Coordinator and Medical Consultant, under the supervision of the directors of the two departments, shall be responsible for planning, integrating and coordinating this cooperative program in accordance with the principles and policies set forth in this agreement; he shall have direct supervision over the additional personnel mentioned above and shall cooperate with designated representatives of the two departments in joint planning and execution of the program.

THIS agreement has met with the approval of the State Federation of Labor, the State Congress of Industrial Organizations, numerous representatives of industry, and the Washington State Medical Association.

In conclusion, I wish to emphasize that this agreement is new and only partially in effect. It is too early to present any results or to prophesy its future accomplishments. All we can say at this time is that we hope and think we are on the right track.

The Road Back

—Personnel's Responsibiilty—

WILLIAM J. BARRETT, *Assistant Vice-President*
Group Division,
Metropolitan Life Insurance Company,
New York City

WHEN considering the road back there comes to mind the basic survey which goes into the making of any road. First the engineer determines the line of the road. He lays out this line which is his basic planning. Then he goes about and surveys the various fills and cuts which he has to make.

The road back in business and industry is going to be similar to this. There is, first, the determination of what the line of this road is going to be and then the correlation of the needs of the individual organization and the individuals of the organization to the direction indicated. The end objective will be to give assurance to each individual in the company and each individual entitled to a place in that organization that the company is interested in him personally and in seeing that he has his proper place in the scheme of things. That is personnel's responsibility.

Planning for the postwar period has been a subject of much consideration and some action during the last few years. The one phase of this which concerns us today is that having to do with planning intimately affecting our personnel. That planning is going to be affected by the programs and policies determined upon by the individual management in large respect, but in an over-all way it will depend for its fruition on the general business conditions prevailing along the road back.

A glimpse as to the possible levels of that road was given in a recent talk by Sumner Slichter, of the Committee for Economic Development and Harvard University, entitled, Jobs After the War. A few brief excerpts will be in order at this point to indicate what the expectations are. Mr. Slichter says:

"The need for goods will be at an all-time high, for needs have been piling up rapidly ever since Pearl Harbor. Back in 1941, with 5,000,000 people unemployed, Americans were driving 27.7 million automo-

Presented at the Long Island College of Medicine's Third Postgraduate Course in Industrial Medicine, week of October 30 to November 3, 1945.

biles. By the end of 1943 the number was down to 23.7. Automobiles are now leaving the road at the rate of about 5,000 a day. By the end of 1944 the number of cars will be down to about 22 million. If employment after the war is higher than in 1941, Americans will wish to drive considerably more than 27.7 million automobiles—probably 33 million or 34 million.

"There are over 600 articles of iron and steel that have not been made for civilian use since early in 1942. Most durable household goods, for example, have not been made for two and a half years. It is reasonable to estimate that, by the end of the war, say, in 1945 or 1946, the accumulation of deferred purchases of these goods will be equal to twice the number of units sold in 1940. This assumption indicates the following accumulated needs:

Vacuum cleaners	3.5	million
Clocks	7.2	"
Radio receivers	23.0	"
Refrigerators	5.2	"
Washing machines	3.1	"
Waffle irons	1.5	"
Percolators	3.7	"
Toasters	4.5	"

And so he goes on presenting this factual and illuminating picture of the immediate road ahead, his logical conclusion being that the postwar demand for goods is likely to test the production capacity of American industry for several years ahead.

The impact of this great demand will vary with industries. The problem of catching up, as Slichter so well puts it, will depend considerably on the particular field in which the individual company is engaged. At any rate it is going to require planning of a detailed nature which is going to be fundamental to the future relations of the people in the business. Therefore, it is of extreme importance that the planning be done right.

Plans today for employment based upon future expectations will necessarily fall into three major divisions:

1. Analysis of the present working force.
2. Estimate of the force necessary to carry out the expected program.
3. The company's responsibility to the returning veteran.

These divisions of the problem indicate the importance of an inventory of the working force—a complete inventory as to requirements, jobs, type of personnel, and over-all organization. Such an inventory is as fundamental to the personnel job as the materials inventory to the operating man.

Standing out above and beyond all other phases of the question is the company's responsibility for reabsorbing the returning veterans; and it is to this that we will give special emphasis in what follows.

This basic problem encompasses many subordinate questions on which decisions must be made and policies established. A brief glance at a few of these questions will indicate why this question alone occupies so much of the limelight on the road back. There are the questions of seniority interest between employees and the returning veterans; discussion of the large number of women and older workers who have entered the ranks during the period of the emergency. (Many of these have proved highly capable.) What will be done with the newly acquired or newly discovered skills or abilities as a result of war service? That payroll clerk who has made such an efficient bomber pilot or regimental supply officer may not be so happy in his old prosaic capacity.

What of the difficult job of adjusting and reorienting returning service men and women to the civilian tempo? What of the attitudes toward employers, toward fellow workers, toward superiors, and subordinates, and toward the public generally which are to be somewhat influenced by wartime experience? All of this applies to supervisory as well as rank and file personnel.

Adjustments and proper attitude development will be necessary for those who remained with the company throughout the emergency as well as those returning. And finally, there is the very important and very difficult problem of the disabled and handicapped veteran. I shall have more to say on that subject a little later.

Need for a Program

THIS does not exhaust the list of challenging personnel reconversion problems by any means. It is quite obvious from our discussion so far that business men generally, and personnel men particularly, must do some extensive planning. Failure to give careful consideration in advance of these all-important problems and develop some sort of orderly organization for meeting them will result only in confusion and ill-considered action when the situations arise. We are now in the reconversion period in that the reinstatement of war veterans has already begun.

Developing the Program

HOW can such a program be developed and of what does it consist? Fortunately, some answer to this question is available in the experience of some of the more progressive companies that have their manpower reconversion programs well along. A few have reached the point where they have converted their complete program to writing in the form of a manual or formal policy statement and have given this general publicity throughout the organization.

On the basis of these examples, it would appear that the procedure followed in developing a re-employment program is the same as would be followed in any similar management problem. It involves, first, the establishing of the facts, a forecast of the probable postwar situation on the basis of those facts and the development of policies and practices that will best meet the situation in terms of the company's objectives. Finally, of course, it is necessary to set up the machinery for the organization, operation and control of the program. Let me develop each of these steps a little further.

Finding the Facts

THE fact-finding step is a very necessary preliminary. Each company must determine the facts on such points as the following as they apply to its situation:

How many employees have entered the armed services? How many have left to enter other types of war work? Who were they? What positions did they leave? How many were permanent and how many temporary members of the organization? (This has a bearing on the rights to which they are entitled under the Selective Service Law.) What was their length of service and relative seniority status, their economic and marital status? What are their special qualifications and abilities?

Similar information is required with respect to the personnel now on the payroll.

To meet the needs for these facts, inventory of the personnel is called for. This needs to cover both the existing organization and those who have left and are likely to apply for re-employment—it must be both in terms of total composite figures and data on the individual employee. Some breakdown of the figures by individual departments or sections will be needed in many cases. Take the case of one large insurance com-

pany, for example. Through careful work planning and longer working hours, the total clerical personnel in the home office has been reduced some 2,600 since Pearl Harbor. With only about 1,900 having entered military service there would seem to be a fairly safe cushion of available jobs for the reconversion period. This is true for the company as a whole but in several departments the volume of work has been drastically reduced with little likelihood of any reversal in the trend in the postwar period. These departments will have a difficult problem when the veterans return and it is important that the situation be analyzed in such a manner to bring these conditions to light so that adequate planning will be possible.

The Ohio Farm Bureau, in approaching this fact-finding job, set up a special war record service for each of the more than 200 employees on the company's honor roll. This card provides for recording information on the data of employment education, and training prior to military service, work history and suggestions as to possible placement. Space is also provided for noting information regarding the employee's war experience that may be developed through correspondence or otherwise.

Another company has set up on a spread sheet a complete breakdown of its office organization by job classification and by departments showing the number of order clerks, typists, cost accountants, code clerks, correspondents, etc., in its present set-up and a similar breakdown of its military service personnel. An additional feature of this analysis was the entry of the volume or units of work handled by each group, such as the number of orders handled, pieces of mail filed, etc.

In still another instance, the form used in connection with this inventory or fact-finding step is set up on a department or section basis with summary information at the top of the form and detailed information regarding individual employees below. The top section shows for each department or division (1) the number of present employees (divided between pre-war and temporary or duration employees), (2) number in the armed services, (3) number expected to return, (4) estimated postwar staff requirements, and (5) any reduction necessary after absorbing returned veterans. In the individual listing that follows is shown (a) employee's name, (b) date employed, (c) rating, (d) remarks, e.g., married, will leave when husband returns or, 4F, wants to stay, and (e) recommended action. Records of this sort permit an intelligent appraisal of the situation.

Postwar Forecasting

THE NEXT step in the planning process is to forecast the probable postwar situation to be met. This, of course, is highly conjectural and will be influenced by a number of unknown factors, notably the length of the war, the plan of demobilization to be employed, etc. For this reason it is, perhaps, desirable to prepare alternative forecasts on various sets of contingencies.

Here again, it is desirable to get down to individual cases in developing these forecasts. Some companies have undertaken to arrive at a reasonable basis through questionnaire methods. General Foods circularized all employees in the service with a personal letter from the president in which the employee was asked to indicate his intentions with regard to postwar employment. The York Corporation followed a similar practice. A large percentage of the replies was received and I understand the employees reacted very favorable to this approach. In addition to determining their intentions as regards to re-employment with the company, information was requested as to any special training or new skills the individual may have acquired in the course of his war service.

The Eastern Marketing Division of Socony-Vacuum Oil Company, Incorporated, has decided to determine its personnel postwar requirements in terms of number and type. In discussing the procedure being followed, G. S. Busch, training and industrial relations adviser, states:

"The determination of postwar personnel requirements in terms of number and type would appear to be an ambitious undertaking in view of the great number of assumptions upon which such a project must be based. . . .

"A few of the assumptions upon which our study is based may be cited:

1. That for the first two years, after all hostilities have ended, we shall average in sales volume of gasoline and fuel oil the volume reached in 1941.
2. That by more discriminating selection of dealer outlets, we shall have fewer dealers, but at least equal total throughout. One requirement of this program will be more intensive merchandising help to the dealer.
3. That we shall continue direct wholesale distribution of products through strategically located bulk stations. Certain small rural bulk stations will be leased to distributors of domestic fuel oil and kerosene.
4. That certain activities curtailed as a result of the war will or will not be resumed.

"With these and other assumptions, each department has been asked to estimate its postwar requirements of personnel by numbers, by types, and by field location as accurately as possible.

"The estimates classified as to male and female, embrace marketing assistant, clerical employees, engineers, salesmen, junior salesmen, service station managers, service station attendants, and 'others.' Estimates are placed under these columnar headings:

1941: Present, Probable Retirements, Releases or Transfers, Postwar Requirements (the best estimates of those in position to make such estimates);

Net number needed (to be recruited, transferred or re-employed to man the local operation) and Military pay roll (number now on leave in the armed services.)

". . . . . we hope to keep the information useful by having the field revise its estimates at least once each six months. Accordingly, changes in the progress of the war, or in the postwar plans of other activities, will be reflected on a fairly current basis. The information is prepared in the field by division training and industrial relations advisers following thorough discussions with staff members and managers, both individually and in groups. It is then submitted to the headquarters office, where it is recapped for Eastern Marketing as a whole, thus revealing roughly the magnitude of the problem and providing a sort of manning table for the postwar period. . . ."

Policy Determination

WITH all these facts and forecasts in hand, the company's policies and procedures can be determined. Some may question the need for any formal company policy regarding reemployment of veterans on the theory that this is already prescribed by governmental edict. However, there are many points on which company decisions must be made. For example, shall benefits and advantages be granted in excess of the minimum requirements of the Selective Service Act—an extension of the 40-day period for application for reinstatement is being granted in some cases. How about employees who served with the Red Cross or with the armed forces of our Allies? What will be the

status of veterans who have no previous employment record with the company? What about salary adjustments that have taken place during the veteran's absence? These and many similar questions will need to be settled. Progressive companies are determining their manpower reconversion policies well in advance of the action date. In some cases these are being publicly announced through the mediums of newspaper ads, articles in the house organ that is distributed to the servicemen, or personal letters from one of the top executives. Action of this sort has resulted in many appreciative replies and generally favorable reactions.

Re-employment Procedure

THE RE-EMPLOYMENT procedure must make provision for reception, placement, training and reorienting or adjusting of the returning veteran. His problem is likely to be a difficult one. His attitude is likely to be affected by his war service. He will have been out of touch with company practices and may need some refresher training. For these reasons some changes in the normal induction procedure may be in order.

Some companies are providing that the one responsible for the administration of the re-employment program, or at least for the initial contact with the returning applicant, be himself a veteran, so as to insure sincere and understanding treatment. When a home office employee of my own company returns from military service, he is first interviewed by a specially qualified member of the personnel division who has had long service with the company and who experienced combat service in World War I. This interview is to insure a warm and cordial greeting, often difficult except between men who have shared a common experience.

In the course of an interview of this type it is possible to establish whether the returning veteran is emotionally prepared to start right in on his civilian activities. This also provides an opportunity to learn of new skills, new interests or higher qualifications acquired as a result of war service. To make sure of capitalizing on such abilities, one company has assigned separately the job of interviewing all veteran applicants who were commissioned.

Some companies will follow the practice of having all veterans greeted by one of the company officials or his own department head. In one case he is invited to make a brief tour of the office and plant and, in the interval, the official or department head involved is notified of his pending arrival and is reminded of some of the principal points regarding his pre-war activities and his war services which may have slipped his mind but which will enable him to conduct the interview on a personal basis.

In some cases, tests and physical examinations are included as part of the re-employment procedure. Some companies employ these on a selective basis only. There has been some resentment against this practice in some instances, but if it is explained that the purpose is purely to insure the individual placement in work that will make maximum use of his capabilities and in surroundings that will not be detrimental from a physical standpoint, there should be no objection.

Based on the initial interview and tests, returning veterans in the American Optical Company will be classified as Par, Par Plus or Par Minus. Par veterans are those who return with substantially the same interests and qualifications. Par Plus veterans have acquired greater experience or potentialities during the war, and Par Minus veterans have abilities for placement in the company but are unable to fit into their old jobs because of some disability. Careful studies have served to develop company-wide opportunities that will provide proper placement for both the Par Plus and the Par Minus veterans.

There is going to be need for reorienting and readjusting these former employees when they return. Maybe it won't be so much a matter of action by the employer as making it possible for the employee to readjust himself. Northwestern Life Insurance Company will give each returning veteran four months for readjustment before assignment to a permanent position. Incidentally, the re-employment program of this company also includes a detailed study and report of each returning employee's record in his job, an aptitude test by an outside agency at the company's expense, readjustment and refresher classes and placement through a nationwide employment agency, without cost, for those who want to work elsewhere.

Some companies are encouraging veterans to take advantage of any vacation privileges they may have acquired before returning to work. RCA Victor has established special rehabilitation committees in each plant or office whose function it is to assist the returning veterans in every way possible in adjusting himself to civilian life. They help him to locate living quarters, inform him regarding community facilities, etc.

It seems reasonable that some type of training may be called for in many cases. One of the large limited price variety chains is planning to put all returning veterans through a four-week reorientation and training course. Other companies will encourage employees to take advantage of the government-financed training program to which they are entitled by extending leave of absence with re-employment privileges on completion of the course.

On the theory that employees who will be returning to supervisory positions may have become inoculated with the rather dictatorial method of dealing with subordinates in the Army (the top sergeant technique), one of the large oil companies is planning to bring all such veterans into the head office for a period of a week or two, during which time informal sessions with company executives will tend to counteract this influence.

But there is one thing to keep in mind in this connection. It is not only the veteran who will need training. Executives and supervisors will have an important responsibility in their day-to-day dealings with these people. Much will depend on their ability to develop the proper attitude toward them—to guard against excessive sentiment or sympathy. It might be well to give your supervisory personnel some preliminary instruction along these lines.

As a summation, I think it might be well to cite the procedure of the York Corporation which has approached this problem with a somewhat different viewpoint. Their procedure is as follows:

1. The simplest routine would be the best, because when faced with a large number of returning veterans, it will be impossible to carry out any complicated ceremony.

2. The veteran must be made to feel that he is a civilian at the earliest possible moment in order that we may be able to satisfactorily place him and so that he will be satisfied with the job available.

3. All returning veterans will be handled the same as our employees. Following through our thinking in No. 1, we do not want to make exceptions in our handling of these men more than is necessary.

4. It is our plan that all returning veterans will be allowed to go to their old department, without escort, in order to get the feel of the plant, as some of these

men will have been away several years. While the returning veteran is on his way to the department, the foreman of that department will be called and notified that he is on the way, who he is and where he used to work, as in a great many cases the foreman will have forgotten his name or his former type of work. This will enable the foreman to meet him on a friendly informal basis, and allow him the freedom of the department.

5. After about 20 minutes or less, depending on the time the man can spend getting acquainted with his old buddies, he will return to the interviewer. By this time the interviewer will have obtained his complete file, his past record, in the shop as well as the record which we are accumulating on all of our men in the armed forces concerning their training and history while they are in the Service.

Planning Your Procedure

EXTENSIVE company programs for veterans may and sometimes do overlook the individual for whom the program was made. For this reason some executives are planning to consider each case individually and to use the existing organization with perhaps some minor changes. In the actual planning of such a procedure, the following check list may prove helpful by suggesting details on which decision should be made:

1. *Initial Reception of Veterans:*

(a) Who in the organization first should see each of the returning veterans?

(b) What should be the nature of the reception?

(c) What would be the most natural thing to do?

(d) Would this be the same for all veterans?

2. *Placement Procedure:*

(a) What is the normal procedure for applicants?

(b) Who is there in the organization qualified to give helpful advice on proper placement?

(c) Is it desirable to have a panel to consider such placement?

3. *Induction Procedure:*

(a) How can the veteran best be brought up to date on company policies, products and organization?

(b) What else will be required to get him started properly?

4. *Training:*

(a) What refresher training will be required?

(b) If the veteran is placed on a new job, will training on the job be sufficient?

(c) Can any of the government's training programs be utilized to the advantage of the veteran and the company?

(d) Will it be necessary to train supervisors as to their part in helping veterans in their departments become adjusted to civilian life?

5. *Counseling:*

(a) Is there someone in the organization to whom each veteran feels he can go for friendly interest and advice?

6. *Follow-Up:*

(a) Has someone been assigned the duty of coordinating these activities for veterans?

(b) Does he follow up each case automatically until he is sure that the veteran is satisfactorily adjusted?

The Pittsburgh Chamber of Commerce made a number of suggestions to its members recently with regard to setting up a re-employment program. These are as follows:

1. Assign responsibility for preparation of a plan and its administration to some individual.

2. Make complete survey of present employment, determining number of jobs now held by women, over aged, and the temporary people who may be replaced.

3. Project your work force requirements into the postwar period. Break these down by kind and type of job, work location and level in the organization.

4. Prepare an organization chart indicating probable placement of returning veterans and the assignment of present employees to the extent they may be affected.

5. Review your requirements for the jobs you have (handicapped etc.)

6. Survey probable training requirements.

7. Enlist union cooperation.

8. Establish place and personnel where veteran may find friendly interest, etc.

9. Maintain contact with employees in the service.

The Handicapped Veteran

DR. PARRAN, Surgeon General of the U. S. Public Health Service, predicts that of every 100 men wounded in battle and who reach a hospital, 97 will survive. This is encouraging news, of course, but it carries with it a serious responsibility for us. Because improved medical skill will save more of the seriously wounded, we must expect the return of proportionately more men with physical or mental disabilities. Certainly, it is our responsibility to do everything possible to fit these people into positions where they can be productive and self-supporting citizens. This is far from a hopeless situation. A number of companies have already had considerable experience in the employment of the physically handicapped both during the war and in pre-war days. The results have been encouraging. In many cases, not only have these individuals been able to perform satisfactorily from a production standpoint but they often prove to be a steadying influence within their departments. They seem to value their jobs more than the normal employee, are likely to be more regular in their attendance, more stable and less subject to minor interruptions during the day.

The U. S. Civil Service Commission has drawn up a list of 2500 jobs that can be filled by persons with physical handicaps.

The important thing is to be sure that the individual is assigned to the type of work and working conditions that come within his capabilities.

An intelligent and sympathetic interview, aptitude tests, physical examinations and in some cases a psychological review will help to match physical capacities and limitations with job requirements so that these handicapped veterans may use their abilities to the best possible advantage. In many cases, companies have made a complete survey of their organizations and have classified and indexed those jobs that would be adaptable to various types of disabilities. Sometimes minor modifications in the duties involved or the location or physical arrangements of a particular job may serve to simplify the problem of placement. For example, a handicapped worker who has difficulty in walking should not be required to climb many stairs and should be placed in reasonable proximity to locker and toilet facilities, etc.

Special instruction to the supervisors and co-workers with respect to their attitude toward and treatment of handicapped veterans seems particularly important. Generally, these relationships should be as normal and matter-of-fact as possible, artificial cheerfulness or excessive sympathy should be avoided.

Industry's Effort

INDUSTRY, over the years, has had considerable experience with the employment and effective use of the disabled veteran. Some of industry's present work in this field is particularly constructive.

The Northrop-Army Plan

NORTHROP AIRCRAFT, Inc. with the cooperation of the commanding officer and chief of the hospital's reconditioning division, has opened Department 99 in Birmingham Hospital. It is basically no different from any other production department. It is fully equipped with machines and tools—all the necessary things in any light metal shop—and is under the direction of the head of industrial training at Northrop. Parts for the Northrop "Black Widow" are being built, assembled, and inspected. The unique part of the department is its personnel—all are wounded soldiers. Even bedridden patients who can't get down to the shop are doing this work.

Primarily, the program is designed to recondition men for return to active military service. But for those who cannot return, it means opportunity to learn a skilled trade. A number who have been discharged have taken jobs at Northrop. Northrop considers its shop in the hospital as a kind of laboratory. It expects to gain enough experience to know how to handle disabled men intelligently and place them in jobs where they may be fully productive. It has learned how to rearrange certain operations, or sometimes to alter the machine itself. For example, the job of operating a drill press, normally requiring two hands, has been changed so it can be done with a foot pedal.

In the initial reconditioning plan of Birmingham Hospital, provisions were made to include the usual activities undertaken by convalescent soldiers in hospitals. These included exercises, games, and such occupations as rug weaving. However surveys made by officers of the hospital showed that a large percentage of the patients wanted mechanical operations. Accordingly, the Northrop program was launched.

The Arma-Navy Plan—The Arma Corporation-Navy plan which you have heard about previously in this program is very similar to that described above. I have had the privilege of seeing this and have seen how practically it has worked out. I commend it to your further inspection if you are interested in this type of procedure for your own organization.

American Craftmen's Educational Council and Dartmouth College have under way a project to train individuals in the crafts, the objective here being to bring men so interested to a degree of proficiency in handcraft production to enable them to be self sufficient. This project has been undertaken by Dartmouth College in cooperation with the American Craftmen's Educational Council. It gives promise of taking care of a number of individuals who either were not connected with industry or who have an artistic craft sense which they would like to develop.

General Handling of the Handicapped

IT IS the job of industry to see that the handicapped are properly placed. Except in rare cases, it is not advisable to adapt jobs to the handicapped, because such adaptation decreases the flexibility of the handicapped. The handicapped should be so placed that his remaining abilities are compatible with job demands, that is, he is placed (as any so-called normal person *should be* placed) on a job that he has the ability to do well. Properly placed the handicapped person is not a handicapped worker.

Proper Placement Requires Organization

THE FOLLOWING points may be borne in mind in setting up a program to take care of the rehabilitation and placement of the disabled individual:

(a) The medical department and personnel department must work together.

(b) Jobs should be analyzed and classified from the standpoint of their physical requirements. The plant doctor should know the jobs in plant.

1. A surprisingly large number of jobs which can be done by the handicapped will be revealed.

2. An essential factor is the uniform classification of jobs. In one company—Allis Chalmers Manufacturing Company—job classification to insure proper placement of handicapped veterans is being done by a specially trained veterans' placement committee which includes representatives from each of the following groups: employment, health and safety, and workers' organization.

(c) Returning servicemen should be physically examined before employment and a physical classification of workers should be devised which can be correlated with the job classification.

(d) Aptitude tests may be used to throw further light on handicapped capabilities.

(e) Environment placement—Location of a job may be important to any handicapped worker. In addition, the handicapped veteran may have a nervous condition which must also be considered.

After Placement the Veteran Follow-Up Needed

FOREMEN should be educated in treatment of handicapped.

(b) The foreman may need to see that fellow workers do not show too much curiosity, sympathy, etc.

(c) Handicapped may need special supervision by medical department until they are adjusted to their jobs.

(d) Follow-up by the Personnel Department to see that the veteran makes his adjustment to plant environment.

(e) Sometimes transfer to another job may be necessary. If it is to a job in another physical classification, approval of the medical department should be secured.

As soon as handicapped veteran makes his adjustment to plant life, he should be treated just as any other worker.

Conclusion

THE PERSONNEL department's responsibility in the road back is broad in scope but no broader than is the normal functioning of an effective personnel department. Reaching the new employee in a manner in which he feels and knows that his well-being is at interest and is being taken care of is ever the duty and responsibility of personnel people. The effectiveness with which these objectives are attained is a measure of the strength and length of life of the personnel function. Personnel's responsibility is to lead on the road back and lead through the expeditious handling of what is the major problem facing industry in the immediate future—the reabsorption and realignment—as effectively as possible, of the returning veteran.

A ONE-DAY Regional Industrial Health Conference is being held in Denver at the Shirley-Savoy Hotel, June 4, under the sponsorship of the A.M.A. Council on Industrial Health. Among the participating agencies are the U. S. Chamber of Commerce, the U.S.P.H.S. Division of Industrial Hygiene; the N.A.M., and the state medical societies of Colorado, Kansas, Montana, Nebraska, New Mexico, North Dakota, South Dakota, Utah and Wyoming. The program includes two panel discussions, "Better Industrial Health Service in the States" and "Rehabilitation and Re-employment Both of the Veteran and of the Disabled Civilian," and closes with the new General Motors film "The Doctor in Industry."

An Occupational Dermatitis Due to the Inhalation of Trichlorethylene Gas

—Preliminary Report—

KENNETH C. BAKER, M.D., CLEVELAND J. WHITE, M.D.,
Department of Dermatology and Syphilology,
Loyola University Medical School,
Chicago

IT HAS been well known for many years that the inhalation of gases and dust in certain occupations causes rhinitis and bronchial irritation,[1, 2, 3, 4] but there is practically no mention in the literature of the causation of a dermatitis by this method of exposure. In the particular case to be reported it was definitely found to be due to the inhalation of trichlorethylene gas which was a liquid form used as a solvent in the manufacture of a varnish.

Case Report

A WHITE male, age 36, who was the chief foreman of a large factory, had an eruption appear on his body in September, 1945. He was first seen by us in the early part of 1946 and had been unable up to this time to pursue steady employment because of the intermittent appearance of this eruption. The history yielded the following information: The condition would diminish and disappear upon absence from work, but exacerbation would recur after renewal hours upon performance of his usual duties. The severity of the signs and symptoms, which were a diffuse erythematous eruption characterized by severe pruritis and burning, was of such magnitude that he could not continue working. It was after one of these severe episodes that he was referred to us for opinion and study.

Examination on the first visit showed a diffuse erythematous eruption involving the whole body, being just as intense on the trunk as on the extremities. Further examination revealed absence of both toe and finger nails in the distal portion, being replaced by a powdery debris. He said this nail condition had been present for several years and had never given him any symptoms. He had had no treatment for the nail condition.

Because of the severity of these attacks and incapacitation from work he was placed in the hospital for detailed study. While in the hospital the generalized eruption gradually disappeared under simple local therapy. A biopsy was performed on the left arm and the changes were simply those of a mild dermatitis. A complete blood study including sternal puncture, and urinalysis proved to be normal. The scrapings from the nails showed on culture trichophyton gypseum. At this time we concluded that we had a fungous infection of the nails and an independent dermatitis of the glabrous skin of unknown etiology.

Because of the history of recurrence of the dermatitis, a study was made of the plant. It was found that his office at the plant was located where there were several large "blow fans." Twenty feet away from his office was a degreasing unit from which fumes were blown directly into his open office by these fans. Further investigation showed that these fumes came from a solvent, the volatile portion of which was trichlorethylene.

To prove that the volatile portion of the solvent was responsible for the condition through inhalation, he was sent back to work wearing a gas mask. While wearing the mask he had no recurrence of his dermatitis. However, as soon as he removed the mask the same sequence of events occurred, namely, a recurrence of the eruption in a few hours with intensive burning and pruritis. A new ventilating system was then installed which carried these fumes out through an opening onto the roof of the plant. Since then he has remained well, and has been able to work at all times without wearing a gas mask.

Because of the unusual circumstances in this case, we wrote to Dr. Louis Schwartz[5] who is well known for his extensive experience in occupational dermatoses. Dr. Schwartz wrote:

"In reply to your letter; we have no records of dermatitis occurring from inhaled gas. We have had dermatitis occurring from irritating mists and vapors, such as gasoline and strong alkali, carried from one part of a room to another by currents of air, but these were due to skin contact with the irritating vapors and not to inhalation."

This letter of Dr. Schwartz explains why we could not find any report of such cases in the medical literature and for this reason we are reporting this case. Further investigations and more comprehensive studies are being carried out.

Summary

A CASE of widespread dermatitis due to inhalation of trichlorethylene gas is reported. No reports have been found in the literature of such a dermatitis due to inhalation of a vapor.

Bibliography

1. SCHWARTZ, LOUIS, and TULIPAN, LOUIS: Occupational Diseases of the Skin, pp. 42, 412, 413.
2. STEUBER, KATHARINA: Hazards from Trichlorethylene and their Prevention. *Arch. Gewerbepath.* 2: 398-456, 1931.
3. WHITE, R. PROSSER: Occupational Affections of the Skin, pp. 42, 54, 64, 68.
4. THOMPSON, GILMAN W.: Transactions of the 15th International Cong. of Hyg. and Derm. (Quoted by White, page 42.)
5. SCHWARTZ, LOUIS: Personal Communication to the Authors.

DR. BAKER is Clinical Assistant in Dermatology; DR. WHITE is Chairman of the Department of Dermatology and Syphilology, Loyola University Medical School.

The Philadelphia International Ladies Garment Workers Union Health Plan

JOSEPH A. LANGBORD, M.D.,
Medical Director,
Philadelphia,
SAMUEL C. STEIN, M.D.

PHYSICIANS have for many years devoted their efforts to Industrial Medicine. In 1932, the publication known as INDUSTRIAL MEDICINE was established. The formation of the Council on Industrial Health in 1937 was a subsequent development by the A.M.A., and today the appearance of *Occupational Medicine*, a new publication by the A.M.A., reveals significantly the place in medicine that occupational diseases has assumed.

The purpose of this paper is to present the place of non-occupational disease in industrial medicine and to offer a plan acceptable to employer, employee and physician. Such a plan has now completed two years of successful operation in Philadelphia and is the basis for similar enterprises being initiated throughout the nation.

Non-occupational illness in industry is responsible for a very high percentage of absenteeism deleterious to industry and labor.

The optimum output of labor has not been obtained because industry has failed properly to link medicine with industry. Industrial medicine should be concerned in preventing illness, in promoting better health, and

From the Union Health Center, 22nd & Locust Sts., Philadelphia, Pennsylvania.

to obtain improved levels of health for the maximum operation of the vital factor—labor.

The National Health Survey and the U. S. Public Health Service have shown that loss of time from work, due to non-occupational illnesses, is 11 days for the average male and 13 days for the average female. The major cause of disability is chronic diseases, and yet such patients receive a smaller proportion of service than the acutely ill. The number of consultations with a physician that was absorbed by the chronic sufferers was 18% of all patients treated. The average number of calls was from 11 to 13, the average orthopedic cases received 17. Patients suffering from illness of an acute nature, with the exception of pneumonia, received on the average much less care per case, the figure being 3.7 calls per patient. The low demand of medical service by these chronic sufferers is ascribed not to the absence of illness but to their low economic status. The average individual manages to obtain service for a short, acute ailment but finds the financial strain insurmountable in chronic ailments.

Our interest in the welfare of the industrial worker, irrespective of whether his disability is connected with his occupation or employment was further augmented by the Industrial Health Survey made by the American College of Surgeons. They found that illness causes 15 times as much absenteeism as industrial injuries. In certain industries, lost time from sickness among women has been found to be 40 times the number of days lost on account of industrial accidents. Another estimate which has been made by a Boston public utility is that 7% of industrial absenteeism is due to accidents, 38% is due to occupational diseases, 90% is due to sickness, non-occupational in origin, which is, however, industrial in effect, because it causes great loss of production to the employer. Other similar investigations confirm these findings.

Last year, American industry lost 400,000,000 days of work through all types of disability. Enough American workers were off the job to close down, in effect, 1,000 plants a year, each employing 1,000 men.

From this information, the place of non-occupational diseases in industrial medicine can be clearly seen. In addition it is noted that the logical expenditure of effort lies in the reduction of the major cause of disability. This is the group of chronic sufferers of non-occupational ailments, whose economic status was such that the obtaining of expensive diagnostic facilities and consultatons with specialists was beyond their reach.

With the great strides in industrial medicine there has been an accompanying realization that preventive medicine is the keynote to maintaining the health of the workers. Periodic physical examinations, including laboratory studies and x-ray surveys, have been publicized to the profession and laity alike. However, experience has shown that comparatively few practitioners are equipped, or find it economically practical, to furnish the service required to make worthwhile this feature of medicine. Thus, it was clear that such a supplemental service without in any way disturbing the relationship of physician and patient, had to be designed.

It has been estimated that 92% of industry, because of the smallness of units, is without medical service. The needle trade was found to be in such a position. The leaders of the Philadelphia International Ladies Garment Workers Union, therefore, maintained that since production is the only source of wages and since industry is the only source of production, industry then should become the source of health improvement. Based on the premise, and encouraged by the opinion of DR. C. O. SAPPINGTON, that health programs in industry are good business practices resulting in greater efficiency and more profitable operations, they invited the representatives of the Philadelphia Dress Manufacturing Association to assume a complete trusteeship of a new health enterprise. The logical arguments and the justness of their claim gained for labor a unique and unprecedented agreement. The monetary obligation for the operation of the enterprise is being entirely assumed by the manufacturers, while the management of the plan is placed in the hands of the union. Thus, industry would benefit by the increased productivity of its manpower; labor would obtain a higher health standard; and the medical profession would have its burden of caring for patients unable to pay a fee for free clinics, lessened.

In order for industry to furnish the capital necessary for operation of the health plan, the manufacturers assessed themselves 3.5% of their annual payroll. It was estimated that this sum would yield sufficient means to cover all operating expenses, including medical service, educational programs, sick relief, convalescent care, hospital and sanitarium subsidies and administration.

The medical service comprises the following functions:

1. Provides care for the non-occupational illnesses of the chronic ambulatory patients who are economically unable to afford private medical care.
2. Provides a medical center to render the patients a comprehensive diagnostic service.
3. Promotes educational programs for the dissemination of such information that will teach the members the value of preventive medicine.
4. Provides care for industrial injuries and illnesses.
5. Provides supplemental diagnostic, consultative, and therapeutic service for the physician chosen by the patient or for the physician referring patients.

Patients are admitted to the Center by appearing in person at the information desk or by simply telephoning for an appointment. Each member of the union has a Health Center card entitling him or her to the privileges extended by the Center. In the majority of cases, the patient has his own private physician who may request laboratory or consultative service without any obligation or anxiety of losing his patient. Thus, the patient and physician avail themselves to the highest degree of medical practice which economically was previously beyond reach.

To accomplish the objectives and perform the functions required by the plan, the medical service was placed under the immediate control of a Medical Director and an Administrative Director. A medical staff was selected which was composed of two groups; a general medical and a consultative section. All patients are first seen by a physician in the general medical section, who examines non-referred patients and requests routine and, if necessary, special diagnostic procedures. A provisional diagnosis is made and after completion of examination and tests, a consultation with a specialist in the concerned field of medicine may be requested if so desired. Recommendations are then made for final diagnosis and therapy. These reports are either sent to referring physicians or, in the case of patients unable to afford private care, to the original examining physician for completion of the recommendations.

A chief nurse is responsible for the maintenance of high standards of nursing care in the various departments.

Clinic sessions take place between 11:00 and 1:00

P.M., 5:00 and 7:00 P.M., and at other times when convenient to patient and physician. Visits are always made by an appointment system, which is the responsibility of the head nurse, thus the "load" is always equally distributed and enables the physician to perform an examination of high standard.

After two years of operation, the mutual satisfaction of employer, employee, medical personnel and the County Medical Society, and the growth of the institution, attest to the success and practical accomplishments of the plan.

Administrative Aspects of Mass Radiography

PAUL A. BREHM, M.D.,
Supervisor, Industrial Hygiene Unit,
Wisconsin State Board of Health,
Madison, Wisconsin

THE PURPOSE of this presentation is to outline the procedures and policies developed by one industrial hygiene unit for the conduct of a mass radiography program. The methods used in the different states to screen large numbers of industrial workers have varied considerably; all have achieved some measure of success. However, this important health function is growing rapidly and there is a decided need to review past accomplishments in the interest of facilitating greater coverage within our own respective areas. The program of the Wisconsin State Board of Health illustrates certain administrative policies involved in the cooperation between the Industral Hygiene Unit and the Division of Tuberculosis.

Equipment and Personnel

THE WISCONSIN mass x-ray program was started in September, 1941, using a mobile 35 mm. photofluorographic unit. It has been in continuous use throughout the State since that date. The personnel of the mobile unit consists of one licensed technician and one coordinator; the latter arranges the physical details of time schedules and location of the x-ray bus. The entire cost of equipment and operation was made possible through allocation of Federal funds. Although the 35 mm. unit has been the only equipment used in industry thus far, other units have been purchased with Federal funds or are on order to permit a more intensive campaign of tuberculosis case finding. A 4 x 10 mobile unit has been assigned to the Milwaukee City Health Department for exclusive use within the city limits. Two portable units, a 4 x 10 and a 70 mm., have been in operation in general hospitals and state institutions. Two additional 70 mm. units are on order for permanent general hospital installations for the routine examination of all hospital admissions and four other general hospitals have requested similar equipment. A traveling 70 mm. x-ray bus has been on order for some time and delivery is expected this spring. This mobile unit will be used for industrial examinations in addition to the present 35 mm. equipment.

Policies of the Board of Health

SOME DEFINITE policies were formulated at the start of the program. County medical societies were contacted, usually far in advance of the arrival of the bus. These contacts were made mainly by the district health officer of the Board of Health, others by personnel from the Division of Tuberculosis and the Industrial Hygiene Unit; obtaining sanction from the medical profession was not always easy.

Each individual examined receives a written report of the findings and in the event of significant pathology, the family physician is so advised. One copy of all reports are kept in the central office, another copy is sent to the district office. The district health officer in turn reports to the local health officer for follow-up by the city or county nurse. No report of individual findings is submitted to management or to the industrial nurse or physician; this definite rule was established to overcome labor union objections. We realize that in many instances the plant nurse or doctor can do a much better job of follow-up than the local health authorities. Therefore, our attitude is that if, after the county health committee receives the reports, they decide that the plant nurse or doctor can affect better follow-up, then it is up to that health committee to do what they wish with these findings. As a matter of fact, some unions have insisted that their plant medical department receive a record of all diagnoses. Perhaps eventually this attitude will become unanimous.

The Function of Industrial Hygiene

THE INDUSTRIAL Hygiene Unit has assumed the responsibility of enlisting the cooperation of industry and labor in this chest x-ray program. This is as it should be. Intimate contact with industry and labor, individually or through their organizations, renders Industrial Hygiene the logical promotional agency. In addition, this activity affords an excellent means of stimulating better relationships with industry and labor.

Early in the program, industries were contacted individually—usually the larger plants in a city. This proved to be unsatisfactory and time consuming; several visits were required sometimes before permission was granted to examine the employees. Also, subsequent visits were necessary to discuss the program before the entire local union membership of each cooperating plant. The net result was meager coverage of the industrial population within the city. Our present procedure developed from this poor beginning.

The x-ray bus operates within the boundaries under the jurisdiction of a district health office, completing all scheduled commitments before moving into the next district. This allows closer cooperation with each district health officer and nurse.

The initial contacts in each city are made with the local association of commerce or the local manufacturers association or both, depending upon the organizational variations. The state Chamber of Commerce and the state Manufacturers Association had already granted full support. The first visit with the secretary of the local association is made at least two months prior to the arrival of the x-ray bus in that city. The details of an intensive city-wide x-ray program are developed at that time. Definite arrangements are made to hold a meeting (usually a dinner) of employers and information is furnished the secretary to incorporate in his letter of invitation. The dinner meeting is generally held a month before the start of the bus in that city.

Letters of invitation are sent to *top* management requesting either their presence or a company representative empowered to act in their behalf. Key representatives of retail establishments either attend this one dinner or, if the city is large, a separate dinner or luncheon is arranged for them. Labor is not always present at these meetings; separate conferences are held with the officers of the different unions. The judgment of the secretary of the association usually

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Presented at NATIONAL CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS, Hotel Sherman, Chicago, April 8, 1946.

determines the policy in this matter. Labor papers, if any are published in the city, carry a detailed story of the coming x-ray examinations.

The dinner conference is thoroughly publicized in the local papers just prior to the time of the meeting. Those in attendance generally include top management, the local health officer, industrial nurses, the mayor, newspaper reporters, local physicians and any other influential citizens that the association may wish to invite. The x-ray examination program is explained in detail and is followed by a discussion period. The x-ray bus coordinator attends all of these sessions and at the end of the meeting she records the names of the industries willing to cooperate. In addition, she obtains information on the number of employees in each plant, the number of shifts and whom to contact to arrange the physical details. The coordinator can then start to develop definte plans and schedules the day after the dinner meeting.

Thus in one meeting, or two at the most, the great majority of industries has been committed to the program. The small plants not represented at the meeting are contacted personally by the association secretary and the coordinator. It has been extremely gratifying to witness the energy and enthusiasm displayed by every association secretary. This is one activity whereby he can render a heaven-sent service to his members. Every facility of the association is placed at the disposal of the bus coordinator, even to the use of their office space and secretarial help.

The largest industries are scheduled first because the bus will be kept busy for several weeks or months, allowing more time to make detailed arrangements to handle the small plants and the retail sections of the city. The work of the bus coordinator is important; centrally located dressing room facilities must be selected, monitors are appointed to handle the workers in groups of 10 or 15 each and these groups must be so timed that there will be a continuous procession to the bus without any delay or interference with production. We had to be particularly watchful of production drop during the war years. Clerical help for taking histories and recording names and film numbers has been obtained in each city from local women's groups such as the Red Cross, the Grey Ladies or women's clubs. Each establishment is supplied with sufficient copies of four different posters for bulletin board display and enough copies of two different pay envelope inserts for each employee. All of this material is sent to the plant about two weeks before the bus is to be there.

Individual industries are urged to contribute to the publicity campaign by means of letters from management to employees, stories in the plant paper and announcements over the loud speaker system. We firmly discourage management from trying to have employees sign up for the examination as very few ever comply. The bus is scheduled on the basis of the total plant population, allowing eight hours of time to x-ray 250 persons. Employers have also urged the workers to have adult members of their families come down to the plant for an x-ray when the bus is at that location. Too much time is lost in moving and setting-up at the smaller plants with less than a hundred employees. The procedure here is to set up at one industry and bring the workers to the bus from two or three other plants in the immediate vicinity.

The same system is used for the retail sections. Different locations are selected and the near-by establishments send their employees to the bus at prearranged time intervals. The downtown area is the hardest scheduling problem but leading merchants help considerably by spreading the word and urging cooperation from fellow business men. In addition, we resort to such measures as a newspaper campaign, the showing of tuberculosis films in the local movie houses, radio publicity and even a house-to-house canvass by the girl scouts to bring the town's adults down to the open centers. In short, every effort is made to x-ray the adult population of the city and the bus is scheduled for that city just as long as there is work to do. In the meantime, the plans are already under way to repeat the same performance in the next city to be visited. The association of each city tries to outdo its neighbor in the number of persons examined.

We have found that obtaining the cooperation of labor is no problem; labor unions even insist on having the bus at their plant if management is not too willing. Thus far the response to the chest x-ray has averaged 85% of the employees in each plant. The remaining 15% is comprised of the absentees, the disgruntled, those out of town on business, such as salesmen, and the office force. The worker in the shop will volunteer for an examination more readily than his white collared brother in the front office.

In four and a half years of operation of the one traveling unit, we have taken over 150,000 films, about 90% of these in places of employment. Of this number, industrial workers disclosed 11 cases of significant tuberculosis per 1,000 examined while non-industrial centers had 18 per 1,000, or 14 cases per 1,000 for the general population. It is interesting to compare the number of cases in institutions and hospitals that were found with the portable or permanent equipment installed in those locations. There were 30 cases per 1,000 among hospital employees, 38 per 1,000 among hospital admissions and 48 per 1,000 in county homes and asylums.

All cases of significant tuberculosis or of undetermined chest pathology determined by the 35 mm. traveling photofluorographic unit are referred to the individual's family physician for further diagnostic studies. In some industries, the employer has assumed the cost of these studies for his employees.

It is rare to find a person with active tuberculosis who refuses sanatorium care. These cases have occurred and it was always a difficult matter to commit them to a sanatorium. However, during the last session of the state legislature, the commitment law was greatly strengthened to minimize the legal obstacles. In addition, a free care bill was passed to overcome the heavy financial burden of prolonged sanatorium care.

Conclusion

ADEQUATE control of tuberculosis is not possible without a vigorous case finding program. Much attention has been given for many years to case finding among our school children by means of the routine tuberculin test. The traveling and portable miniature x-ray film equipment is rapidly becoming a major method of case finding for our adult population. And industry is the logical source for examining large numbers of persons in a comparatively short period of time. Industrial hygiene should be and has been the agency best qualified to develop a comprehensive industrial x-ray program. The combined case finding facilities of the public health agencies and the anti-tuberculosis associations are still not enough to discover most of the cases of tuberculosis. There is a definite need for more equipment to examine more people more often.

The policies and procedures outlined here represent the efforts of only one state to do the most with what it has. The methods used follow a certain general

course, with the details of the pattern varying slightly with each community. You may not agree with our way of doing things, but if it contributes something to your program and you in turn can give us some ideas, then we can all go home and do a better job.

Further Blood and Neurologic Studies

—Of a Group of Employees in a Manganese Crushing Mill—

FRANCIS ASHLEY FAUGHT, M.D.,
Medical Director,
E. J. Lavino and Company, Philadelphia

MANGANESE dust constitutes a definite industrial hazard, the seriousness of which has but recently been recognized.

Excessive concentrations in the working environment may result in the development of a slowly progressive affliction, involving the basal ganglia, leading to permanent disability. The level of concentration which constitutes a health menace is fairly well established. Less is known of the duration of exposure in relation to the concentration of manganese dust, because available data are contradictory and unconclusive.

The report and discussion which follow are based upon nearly 300 blood and other examinations made upon 19 men employed in a manganese crushing mill (Mill B). This mill was put into operation in 1937, and supplanted Mill A. In its construction every effort was made to provide protection against concentrations of the dangerous dust and to maintain manganese dust levels well below the danger line.

Shortly after beginning operation, the writer was requested to take over the medical supervision of Mill B and to recommend and carry out a program directed toward providing and maintaining adequate protection for the employees, for the purpose of detecting, if possible, signs of incipient manganese poisoning, and so provide for the transfer of threatened workers before permanent damage to health had occurred.

Under direction of Dr. William B. Fulton, of the U. S. Public Health Service, Mill A had been intensively studied with reference to working conditions and the health of the employees which culminated in the publication of U.S.P.H. Bulletin 247 in 1940.

This comprehensive report included the examination of 34 employees exposed to high but varying degrees of manganese dust concentration in Mill A. These fell into three groups: (a) 11 employees who developed chronic manganese poisoning, (b) 23 exposed but not affected employees, and (c) 16 in a control group.

The occurrence of chronic manganese poisoning among the 34 employees of Mill A was found to vary with the atmospheric manganese concentration and with the length of employment. Eleven cases were found. Of nine men exposed to less than 30 mg/m of manganese, none was found to have the disease, although only two of these nine men had been exposed for more than three years. On the other hand, five of the six men exposed for more than three years to atmospheric manganese concentrations exceeding 90 mg/m were found to have the disease. No cases were found among men exposed to less than 30 mg/m, but Dr. Fulton cautioned that this level should not be considered as a threshold limit because only a few men were so exposed, and some exposures were intermittent.

A study of the manganese dust concentration in the new mill is included in this bulletin, which showed a concentration of less than 10 mg/m. This suggested an adequate factor of safety in the new mill, an assumption compatible with our experience.

The signs and symptoms of chronic manganese poisoning may be quite similar to those of certain other diseases that affect the basal ganglia, such as multiple sclerosis, paralysis agitans, and progressive lenticular degeneration. Lues may be confusing. The disease under discussion can be distinguished from these other diseases by a history of exposure to manganese or its compounds, a negative Wassermann and certain other characteristics. According to Bulletin 247, the disease is characterized by muscular incoordination which becomes evident first in the form of difficulty in walking. Later, other parts of the body may suffer disturbances in coordination with the resulting disability. Most of the laboratory tests applied to blood, urine, and cerebro-spinal fluid, gave normal results. However, manganese-affected workers had a low leucocyte count involving particularly the neutrophilic cells. It is not known whether or not this finding occurs sufficiently early to be used as a criterion for removing the worker from manganese exposure.

Analysis of the blood for manganese content was not shown to be of any value, but a lowered hemoglobin percentage was observed in some cases.

Examinations of the workers in Mill B began shortly after it was put into service and cover a period of seven years.

Some of the employees included in this study were transferred from Mill A where they had been employed for periods of one year or less with one exception: an office man of minimum exposure and two years employment.

THIS study and report cover special examinations of 19 workers exposed to various concentrations of manganese dust for periods of from two to nine years. No effort has been made to study atmospheric concentration in this mill; but we are confident, since no case of poisoning has been discovered, that we are operating at a safe level of the 10 mg/m found and reported by Dr. Fulton.

To detect early manifestations of chronic manganese poisoning, the following neurologic manifestations were searched for: tremor of the tongue, tremor of the extremities, intention tremor of the hands, speech disturbances, gait disturbances, muscular weakness, mask facies, lateral nystagmus, a tendency to hilarity, and various muscular incoordinations such as manifested by propulsion and retropulsion.

Laboratory studies were confined to hemoglobin, red cell determinations, total leucocyte, and differential count; each new employee received an initial Wassermann test.

The study is being continued, since it has been shown that pathologic reactions to manganese dust may take place with no relation to duration of exposure. Reports are available to show that cases exposed to unsafe concentrations may develop serious disease in less than two years, and, under apparently like conditions, as late as 19 years, or not at all.

In the present group, most of the men are still employed although some have passed from observation.

In this study, for sake of comparison, the men have been arbitrarily classed in an assumed degree of exposure relative to the particular operations of each employee, as follows:

CLASSIFICATION OF WORKERS	
6 baggers and maintenance men	100%
4 warehouse men and unit runners	60%
4 working foremen and sample men	50%
5 watchmen	25%
2 office personnel	15%

Their age distribution was between 23 and 63 years, average 30.5. The years of exposure from two to nine; average 4.1 years.

WASSERMANN—none gave a positive Wassermann.

RED BLOOD CELL DETERMINATIONS—At the beginning of employment in Plant B this ranged between 104 and 72%. At no time, with but few exceptions, were the red blood cells below 80%. The yearly averages were within normal range, and there was little tendency in the individual to vary from year to year. More rose than fell during their period of employment. If we assume that variations of 5% or less are negligible then six showed no change, two fell moderately, 15% and 7%, respectively, and the remainder rose from 6 to 18%. The influence of degree of exposure and duration of employment was negligible. None was below 80% at the end; 15 were over 84% at the last examination.

INFLUENCE DEGREE OF EXPOSURE ON HEMOGLOBIN AND RED BLOOD CELLS

Exposure	Average Hbg.	Average Red Blood Cells
100%	88%	88%
60	88	89
50	92	92.5
25	89	89
15	89	93

It is interesting to note that in the 100% exposure group, the hemoglobin and red blood cells averaged 88%, whereas in the 60% exposure group, the hemoglobin and cells averaged 88 and 89%, the 50% exposure averaged in hemoglobin 92% in red blood cells 92.5. The 25% exposure group, hemoglobin and cells 89%, and 15% exposure group hemoglobin 89% and red cells 93%.

HEMOGLOBIN. Hemoglobin estimations by the U. S. Public Health Service were made on a Newcomer hemoglobinometer containing a Newcomer disc. The results were reported in grams per 100.0 cc. and in percentage of an assumed normal value of 16.9 per 100.0 cc. of blood. This report stated that "lowered hemoglobin content of the blood in the exposed group is slight and of uncertain significance.

"Only one of the affected men had a hemoglobin of less than 70%."

Our hemoglobin estimations were made with a Spencer prism colorimeter, employing a Newcomer disc, and the results read in grams per 100 cc. and reported in percentages of an assumed normal value of 16.2 per 100.0 cc.

For convenience and ease of comparison, the hemoglobin is reported in percentage.

SUMMARY HEMOGLOBIN (AVERAGE PERCENTAGE DURING PERIOD OF EMPLOYMENT)

100%	exposure	6 men, 2 to 6 years, 88%
60%	"	4 men, 2 to 5 years, 88%
50%	"	2 men, 4 to 5 years, 92%
25%	"	5 men, 2 to 8 years, 89%
15%	"	2 men, 8 to 9 years, 89%

No significant changes were noted in the 19 workers in this study. Changes, even slight, bore no relation to the degree of exposure to dust or the years of exposure.

LEUCOCYTES. In the U. S. Public Health Bulletin appears the following: "In general, leukopenia becomes more pronounced with the progress of the disease. An examination of the case records reveals that all but one of the well-advanced cases had leucocyte counts of less than 5,000."

In Mill B none showed a leukopenia when first examined, the lowest being 5,050. At the end, only one leucocyte count of 4,850 was below the lower normal limit. This occurred in a man in the 60% exposure during three years. Among the 19, 11 showed a rise of between 400 and 2,100 during the period of study. One began, and ended over 10,000, and tended to be high throughout; in general those with lower counts tended to remain low and those with higher counts to remain higher. The average leucocyte count of the group was 7,700 on first examination and 7,600 at the last examination.

No tendency to leucopenia was found in any employee, irrespective of the percentage of exposure or years of employment.

LYMPHOCYTES. (Accepted normal variation 21 to 35 inclusive.) The first examination found four employees in the 60 and 100% exposure groups with lymphocyte counts of above the accepted maximum and one of 25% exposure with a lymphocyte count of 43%. On last examination after periods of employment of from two to nine years, five showed a rise above 35%, four of whom were in the 25% or less exposure groups.

We have found no relation between duration of exposure and lymphocyte change, e.g., one worker with eight years exposure at lowest concentration rose 15%, whereas a man in the same group with seven years of exposure decreased 5%.

Apparently the tendency is to decrease rather than to increase in those suffering the greatest relative exposure. Those with normal percentages usually remained so throughout the study; those slightly high tended to remain high.

A reciprocal relation between changes in the polys and lymphs was noted in all cases, although the percentage of variation did not always balance, this discrepancy being due to coincident variations in the percentage of mononuclears, eosinophiles and basophiles, to which no particular significance can be attached.

Summary

A STUDY of a group of workers exposed to manganese dust in an ore-crushing mill was undertaken to safeguard the health of the employees. These studies were based on a bulletin published by the U. S. Public Health Service, concerning 11 employees exposed to dangerously high manganese dust concentrate who developed chronic manganese poisoning and became permanently disabled.

Nineteen workers in a manganese crushing mill received approximately 300 complete blood counts, an average of three times a year. The longest exposure was nine years, the shortest two years.

The same group received a like number of examinations of the nervous system for early manifestations of chronic manganese poisoning.

Records of the laboratory examinations and neurologic studies have been presented in summary, with special reference to evidence of basal gangliae involvement and significant changes in the leucocytes, particularly the lymphocytes, and alterations in the hemoglobin percentage.

Conclusions

SINCE no suggestive or definite changes in the blood components were found, and as no signs of involvement of the nervous system were discovered, it is reasonable to conclude that the concentration of manganese dust in Mill B did not exceed a safe limit during the seven years of this study and that, therefore, the safeguards and control of manganese dust concentrations in Mill B are adequate to protect the employees from this industrial hazard.

LETTERS

TO THE EDITOR:

IN THE April, 1946, issue of INDUSTRIAL MEDICINE you have presented an article on "General Considerations for Sanitation and Public Health in Tropical Industry," written by DR. ALFRED GAGE. The broad scope of disease in tropical industry was handled quite well by DR. GAGE except for one very important malady which is taking a large toll of tropical workers every year. I refer specifically to Schistosomiasis of which there are three types, each having different vectors and disease characteristics but the same mode of transmission and life cycle.

The disease is caused by the penetration through the skin, of anyone exposed to Schistosomiasis-infested waters, of a blood fluke called Schistosome and its egg-laying and reproduction in the portal system, liver, spleen and mesenteric veins of its victims.

The incidence and spread of the disease is increasing at an alarming rate, particularly in the West Indies and in certain Central and South American countries. It is well established and spreading in Egypt, Africa, China, Japan, the Phillipines and other Pacific Islands. There is no specific therapy nor medication for the disease and it can only be controlled by proper sanitation and hygienic methods.

The tropical industries in the endemic areas could help to control the disease by the following methods:

1. Prevent the exposure of their laborers to Schistosome-infested waters by compelling them to wear rubber boots and gloves when working in such waters.

2. Provide safe water for workers and their families for all domestic and recreational purposes and prevent them from using infested streams.

3. Prevent the discharge of untreated sewage into streams used for industrial, domestic or recreational purposes.

4. If infested water is used for domestic and recreational purposes, it should be chlorinated prior to its use. A chlorine residual of one (1) p.p.m. should be maintained for 30 minutes.

5. Dose infested waters with chemicals toxic to Schistosome and its intermediate snail host.

I have just returned from a three-year detail with the Armed Forces in the tropics of the Western Hemisphere and have observed the ravages of this disease in its endemic foci. My chief concern, during this assignment, has been the control of Schistosomiasis by sanitary engineering methods. It is for this reason that I have taken the liberty to comment on the above-named article.

It is hoped that more consideration will be given to this disease when dealing with tropical medicine, sanitation and public health since it is an industrial hygiene problem, originated, established and spread by tropical industries and for this reason it is the responsibility of tropical industries to stamp it out or at least to control it.

E. J. HERRINGER, MAJOR,
Sanitary Engineer, U.S.P.H.S.

DR. PILGRIM

NOW various conferences, including one with PROFESSOR HUBERT WINSTON SMITH about a series of lectures on legal medicine at University of Illinois Medical School; and with DR. ROBERT FLINN, re the industrial hygiene activities of the Chicago Health Department survey. . . . AND enroute to Kansas City, there meeting JUDGE HAYWOOD SCOTT at a luncheon conference and also DR. MAURICE JONES anent depositions in a group of Federal court cases. . . . AND busy with reports and laboratory work, and thence to an industrial plant where there is a lead exposure, doing periodic examinations. . . . AND hastening to a special rehearsal of the orchestra in preparation for the season's last concert. . . . AND at luncheon with MISCHA MISCHAKOFF, former concertmaster of the Chicago Symphony and now the concertmaster of NBC Symphony, soloist at the last concert of the season of the Chicago Business Men's Orchestra. . . . AND busy with much reading and correcting of manuscripts and reports; and at a luncheon of professional engineers, particularly with reference to organization and constitution and by-laws. . . . AND enroute to southern Illinois, there meeting with attorneys, physicians, and industrialists on a compensation hearing which took the better part of two days; and much interested to note a new theory put forward by one of the physicians during the hearing, in which he described a so-called "spatula" test for silicosis—this consisting in taking a specimen of the sputum and rubbing it on a sterilized microscopic slide with a sterilized spatula, the test being positive when a grating sound was observed; and, before taking leave, greatly enjoying dinner with the director of industrial relations and his consort, the latter of whom characterizes persons as being either "snazzy" or "old shoes". . . . AND driving to Lafayette, Indiana, for another series of lectures at the Industrial Vision Institute at Purdue, and hearing with great interest LEONARD OLSON, of Northwest Airlines, talk about his company's program for upgrading of employees—an interesting series of tests; and again renewing friendships with members of the faculty and, this being Gala Week, listening to the Glee Club serenade outside of the Union at 2:00 A.M.; and, on the way back, stopping with the RAY REEDS, and with the GLENN GARDINERS at Hammond. . . . AND beset with the difficulties of the dimout and finding it necessary to move one's automobile from the garage to the street on account of the restricted hours, but functioning well regardless. . . . AND enroute to Ohio for an industrial commission hearing, but, before entraining, having the pleasure of an interesting conversation with DR. WILLIAM P. YANT, especially relating to the present coal mining controversy; and conferring both before and after the hearing with attorneys, physicians, and industrialists, especially anent the part old age plays in disability, as contrasted with or related to occupational disease. . . . AND busy with manuscripts, small and large, and going over some new book material, which, though interesting in spots, seemed rather disconnected and much out of line with the proposed title; and working on survey material and finding much of interest which can later be wrought into something which, it is hoped, will be greatly useful to industry in the future. . . . AND at a meeting with WARREN COOK and FRANK PATTY, with respect to the new magazine on industrial hygiene, with many plans for the proper presentation of material; and later for libations and merry tales at the meeting of the Midwest Safety Conference. . . . AND dictating for many hours on lengthy reports, correspondence and memoranda, and checking outlines and material on survey work. . . . AND busily engaged in the various details and arrangements for the section program of the A.M.A. (Preventive and Industrial Medicine and Public Health) with the many corrections and adjustments inevitable in arranging such a program. . . . AND going over indices of the Negligence File, Vols. 1-13, and the tabulated cases on compensation experience from 1936 to 1945, regarding the effects of radiation and cases brought thereon, and finding that it is necessary to look under many headings in the indices to find the type of cases involved. . . . AND enroute to Michigan to attend the first annual rendezvous of the RAMAZZINI SOCIETY, stopping in Detroit to have dinner with brother Byron, and arriving at destination in spite of the threatened railroad strike (which prevented some of the members attending), where were DRS. BELKNAP, CUNNINGHAM, JOHNSTONE, KEHOE, LANZA, LEGGE, LEGGO, MACHLE, MCCORD, MCCONNELL, PETERSON, SELBY, SMYTH, and STERNER, with DRS. EARL LUTZ and EDWARD DART as guests, and where the only planned feature was the first annual Ramazzini Oration, by DR. ROBERT LEGGE, of Berkeley, California, given, after dinner, on the subject, "Bernardini Ramazzini—His Life, Deeds and Book"—this a very scholarly presentation, accepted with much praise, and where other features of the program, of course unplanned, were counting spots and exchanging currency, and a Scotch foursome with WILLARD MACHLE and CARL PETERSON competing against RED JOHNSTONE and PILGRIM, in which, being all square at the 17th, we were defeated two

—*Continued on next page.*

Industrial Medicine
Reg. U. S. Pat. Off.
The Journal of
Industrial Health, Traumatic Surgery and Occupational Diseases
Established 1932
Executive, Editorial and Publication Offices:
605 No. Michigan Ave., Chicago.

Editor: C. O. Sappington, M.D., Dr. P.H.
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Publisher: A. D. Cloud.

Volume 15 JUNE, 1946 Number 6

.... Mostly Odds

THE *Journal of the American Medical Association* is currently publishing a condensation of the verbatim reports of the U. S. Senate committee hearings on the Wagner-Murray-Dingell bill. This is interesting, and instructive, reading—particularly in its manifestations of the fact (quoting from elsewhere) that "a new personality has emerged for the opposition; Senator Forrest C. Donnell, of Missouri. Direct, untiring, a pitiless cross-examiner, he began to expose the basic pattern of the witnesses in favor of the bill: dramatic evidence supported by the old statistics and long-forgotten conditions of the 1930-37 depression. Senator Donnell's tactics were simple: if old statistics, having no bearing on conditions in 1945 and 1946, were to go on the record, he was going to see that the record also showed their irrelevancy, their curiously similar pattern. But his basic strategy was designed to prove a great deal more: (1) that the so-called national 'demand' for compulsory insurance doesn't exist except in the organizations which are sponsoring it. (2) That the Social Security Board, and more specifically, Isidore Falk, has maintained constant liaison with these organizations in the interests of promoting compulsory sickness insurance" . . . UNDER the heading, "Unions now Big Business": "Sidney Hillman's C.I.O. Amalgamated Clothing Workers now has two banks, a radio broadcasting company and insurance firm, plus two housing projects. . . . The two banks—one in Chicago and the other in New York—have assets aggregating nearly $70,000,000. The union has applications pending to operate radio stations at New York, Chicago and Philadelphia and already has a government permit to operate its station being built at Rochester, New York. More than 900 families, most of them headed by union members, live in the two housing projects in the Bronx and in New York's lower East Side. The insurance company, operated jointly with the clothing industry, administers various insurance plans financed by employer payments of 2% of payrolls. It provides health, life and hospitalization benefits in varying amounts for sections of the industry". . . . EXPLAINING the fat wastebasket: "An inquiry started by Senator Homer Ferguson, of Michigan, has disclosed that the United States government is spending $75,000,000 this year on propaganda, and has about 43,000 employees engaged in the unsavory business". . . . JOHN L. LEWIS says: "We plan to replace the present company doctor scourge." The "present" scourge with what other? . . . . THE *cost* of compulsory health insurance has thus far not been stressed in the propaganda. The plans for this cost which have been broached, however, provide for so much bureau and administrative overhead that they remind one of the plaint of the tax-ridden Englishman of a past century who found that the government "put a penny in the urn of poverty while, with the other hand, it took out a shilling." One wonders, too, whether the medical care which it is supposed the government will make available under its compulsory set-up will be given with as much attention to promptness and completeness of service as the law will require in the payment for it. It is certain that Social Security will get the money *as and when it is due*, under penalty if the payment is late. It is not so certain that the patient will get the medical care as and when he needs it. And who except himself will be penalized if he doesn't get it? . . . . NOTE on unemployment: "Of the statistical agencies publishing continuous series of estimates of unemployment the Alexander Hamilton Institute has usually made the largest estimates of men without jobs. Its last figure of 2,650,000 for February, 1946, reflects the ravages of the big industrial strikes—General Motors, U. S. Steel, Westinghouse, General Electric, Harvester, etc. But that 2,650,000 is far under the 7,800,000 who were out of work at the very peak of the 'Roosevelt recovery' in 1937—before the recession of the same year."

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down, and where the diversions were many including libations, experiences, and spicy tales well told, whereof there were, indeed, vitamins for the soul, and where history was made—so that it was with great reluctance that we parted company at Detroit, but not, however, before hearing, at the dinner of the Michigan Industrial Hygiene Society, a very fine presentation, again by DR. ROBERT LEGGE, on "The Historical Development of Industrial Hygiene". . . . AND back at my desk in time to confer with DR. CHARLES FRANCIS SHOOK, newly Medical Director of the Owens-Illinois Glass Company, on experiences with respect to medical service in industry; and whence to luncheon with DR. ROBERT LEGGE, with reference to historical documents, their value, and anent their publishing. . . . AND thence to the first meeting of the Technical Consultant Sub-Committee on Industrial Hygiene of the Advisory Committee to the Chicago-Cook County Health Survey, where were COLONEL MILLER, LIEUT.-COL. REEKIE, LIEUT.-COL. FLINN, MR. LAWRENCE ROGERS, WARREN COOK, DR. CARL PETERSON, MR. A. G. HEWITT, DR. FRED SLOBE, and KEN MORSE, and where were outlined plans for the industrial activities of the health survey. . . . AND now planning for the study of survey material and future engagements and projects.

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Treatment of Myopathies and Industrial Injuries with Wheat Germ Oil

M. ANT, M.D.,
Brooklyn, New York

THE TOPICAL use of vitamin E in the treatment of muscular pathology is based upon the tenable deductions arising from the consideration of the physiology of muscle and its related functions. Such a viewpoint is essentially antagonistic to the exercise of past dicta of counter-irritation such as the employment of rubefacients in myalgia. It is a matter of common physiologic knowledge, that counter-irritation, whether by physical means or by the agency of rubefacients, favors rigor caloris, considered per se by many physiologists as a spastic condition, this view being compatible with Howell's theory[1] that ischemia is responsible for myalgia. The reasoning that a return of blood to the locus, rectifies ischemia and thus removes the cause of myalgia does not obtain, as ischemia is of neurogenic origin, probably autonomic, which verifies Starling's[2] conception that the ". . . most readily fatiguable point is the motor nerve cell." In further acceptance of this thesis is the experimental evidence that deep pressure sensibility *can be* transmitted to muscle through a skin in which the cutaneous nerves have been severed, experimentally or otherwise. There is furthermore no dissent from the teaching that muscle tonus is neurogenic, not myogenic. The nervous and muscular diatheses precipitated into clinical conditions by deficiency of vitamin E are examples of this relationship. Pathologic studies have demonstrated that the basic condition involved is an ischemic necrosis, affecting the ganglion cells but not the nerve plates, resulting in edema and hemorrhage, pointing to circulatory blockage as the cause of the lesion. Necrosis of muscle tissue occurs by ingress of water through osmosis, which water swells the fibre. This local edema is not amenable to treatment by diuretics, which ameliorate some forms of water metabolism disturbance.

Numerous substances occurring in nature exert the peculiar effect of vitamin E. Vegetable oils are the principal natural sources, among which wheat germ oil is the richest source.* The relative vitamin E activity of various oils depends less upon the quantity of vitamin E therein, but more upon the proportion of the a, b and Y isomers in decending order of activity.

That vitamin E was not *solely* a reproductive vitamin, was supposed in 1940 by Drummond[3] who states: ". . . the possibility that vitamin E has a general physiologic function that has not had the attention it deserves is probably due because it was overshadowed by the obvious importance of its effect on the reproductive system."

Goetch and Pappenheimer,[4] Wood and Hines[5] and Barie[6] have all noted the relationship of the myopathies to vitamin E deficiencies. Emerson et al,[7] in their studies with guinea pigs, concluded that even when the vitamin B complex is administered there is manifest evidence that adequate administration of vitamin E is the *specific* factor, in the prevention of nutritional muscular dystrophy.

The natural sequel to injury of muscle is the development of primary fibrositis. The belief still extant that fibrositis is an infection may give way to an interpretation on metabolic grounds, for, aside from its principal etiologic factor, i.e., trauma, adequate muscle and nerve cell nutrition as a therapeutic measure definitely causes improvement in those pathologic changes which are reversible. In primary fibrositis, Steinberg[8] reports complete relief of symptoms of 30 cases after one week of treatment. He does not report relief of secondary fibrositis associated with rheumatoid arthritis, gout or sciatica; but it is entirely possible that secondary fibrositis as a result of continuous intramuscular injections may be favorably influenced. This likelihood is even greater with external application of vitamin E to the needle-scarred thighs of diabetics, injured through self-administered doses of insulin.

* Solvent extracted wheat germ oil was used in our experiments, since it was pointed out by Mackenzie, Mackenzie and McCollum (Public Health Report 53; 1779, 1938) that solvent extraction makes available other substances in addition to vitamin E, which are active. Supplied by Viobin Corp., Monticello, Illinois.

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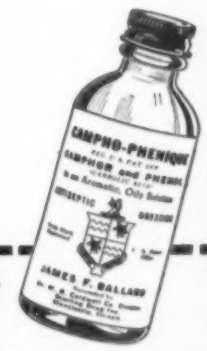

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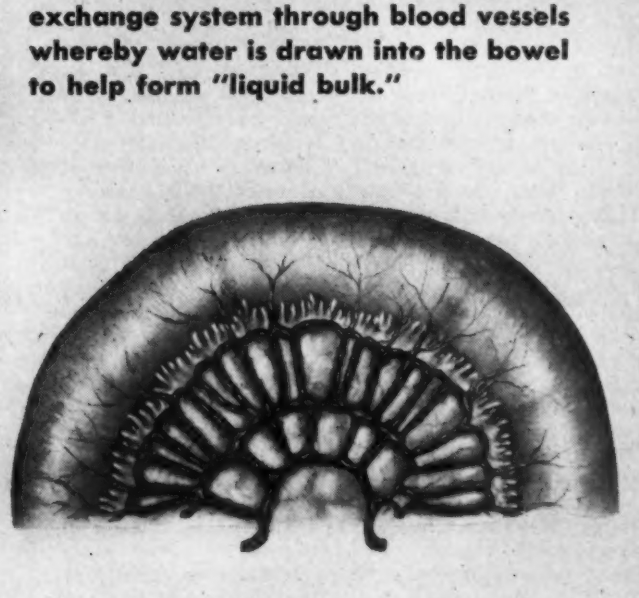
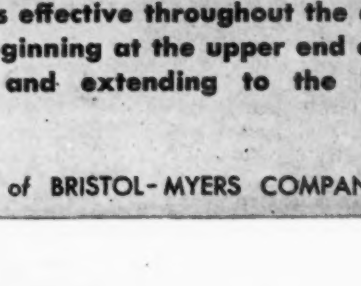
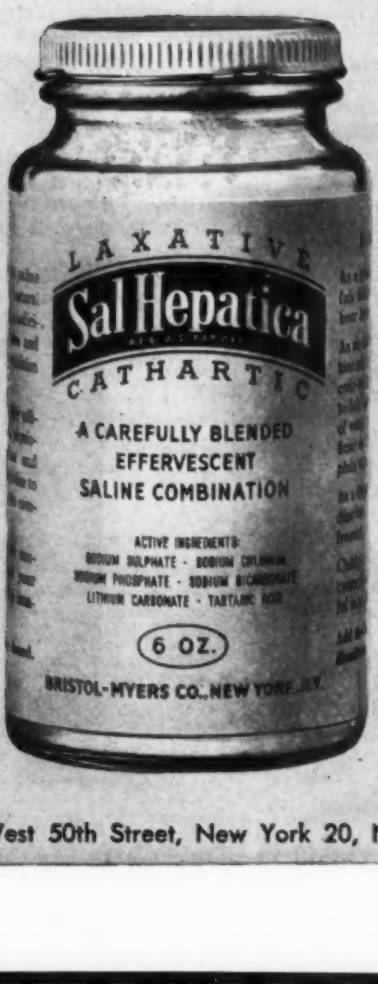
Schematic section of villi showing fluid exchange system through blood vessels whereby water is drawn into the bowel to help form "liquid bulk."



Macroscopic view showing how fluid exchange is facilitated by drawing of excess bulk to the intestine through the highly vascularized mesenterium.





The gentle action of SAL HEPATICA is not localized to one particular section of the canal. It is effective throughout the entire bowel, beginning at the upper end of the intestine and extending to the lower segment.

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Fibrositis was classed by Moynahan and Nicholson[9] as a disease entity, and the importance of its treatment under present conditions in wartime England was emphasized. Their use of procaine hydrochloride injections is reported to be successful. The suitability of parenteral treatment is doubted as that condition involves several distinct regions where fibrositis may develop. The application of vitamin E, in the form of an ointment, does not carry with it the inconvenience and impractibility of injections.

De Gutierrez-Mahoney[10] has reviewed the relation between neural myopathies and vitamin E, on the basis of which he used the vitamin in clinical treatment. The following extract recounts his experiences: "Three of those (patients) had wasting with weakness of the hand muscles. One had wasting about the neck and shoulder girdle and the other two had very little wasting, but *marked spasticity*. Two of the patients with *wasting* of the hand muscles and one with *spasticity* of all limbs discontinued taking the vitamin concentrate after having noted improvement, and they fell back into their previous disability. They resumed taking the material and improvement recurred. One of these fell from grace a second time, and his condition became worse, but improved once more when he took the wheat germ concentrate."

His observations were controlled by the following observations: "With the improvement of the specific complaint of localized weakness there was a marked change in the general strength and vigor of these patients, about which the spoke spontaneously. In two patients there was *filling in* of the *previously wasted* hand muscles. One man continued to have fasciculation of his muscles, though to a diminished degree, while he improved during a two year period of observation from his being unable to walk without a stick to his being able to run well and to return to work."

In the author's own experience, external use of wheat germ oil as well as internal use of vitamin E was made. In view of the fact that internal administration can be supplemented by food, a diet rich in vitamin E was chosen, which include some green leafy vegetables, lettuce and whole wheat bread. The diet was otherwise balanced to fit the needs of the individual patient, to remove nutritional disturbance as a possible causative factor in the entity under consideration and treatment, as well as a step in the correction of possible anomaly. Early in the conduct of treatment, inunction by a vitamin E ointment alone was the therapeutic regimen employed, to determine if the effect of the vitamin could be obtained solely by external use. The results were satisfactory and therefore indicative of the underlying principle that absorption, and therefore direct contact with the site of fibrositic or myalgic complaint is a possibility. Therefore the use of external application of a 55% ointment* was supplemented by internal administration of 3 mgms. tocopherol as well as a vitamin E rich diet.

Illustrative Cases:

F. H., FEMALE, married, housewife. Complaint: Swelling and stiffness of both hands, coldness and burning of the fingertips. Duration: Three months and appears progressive. Onset was noted after a cold spell during which the patient was chilled. Tentative diagnosis of Raynaud's Disease was made by the staff of the author's service. Suspecting a severe fibrosis instead, we recommended the use of wheat germ oil to be lightly massaged without friction into hands and wrists. Recovery resulted. This was a case of frostbite, that had previously been diagnosed as Raynaud's Disease. Metabolic treatment has improved the circulation, with improvement of the subjective symptoms. Local application of vitamin E oil has definitely beneficial effect on the contracture of fingers and hands. (A detailed report of this case was published elsewhere.[11])

2. M. A., male, physician. Complaint: Inability to walk, pain and swelling of knees and back. Previous therapy, i.e., salicylates orally, methyl salicylate topically and rest cure were of no avail, and condition worsened.

Findings: Small painful nodules in popliteal areas and

* This was made available through the courtesy of the Drug Products Co. Inc., New York, N. Y., and is known as "Myopone."

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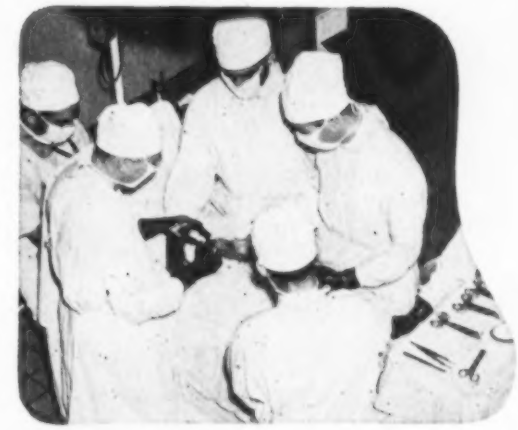

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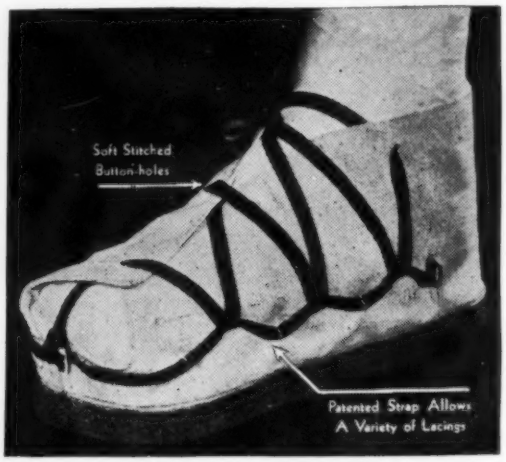

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tendon insertions in lateral aspects of both knees. Treatment: Low uric acid diet, rest, vitamin E internally and wheat germ oil externally. Results: Condition improved and soon progressed to point where he was able to resume his practice.

3. J. H., male, age 60, elevator operator. Injured June 8, 1944. He fell through an elevator shaft and sustained multiple skeletal injuries especially severe to left shoulder, left chest and left leg. He has a previous history of bronchial asthma and myocardial sclerosis. He was treated by conventional orthopedic methods. His injuries aggravated his bronchial asthma and he appeared on November 7, 1944, with complaints of increased dyspnea, unable to sleep on left side, inability to close fist and limping of his left leg.

Physical examination: Revealed no internal injuries, except for an aggravation of his past ailments. The left shoulder muscles and chest muscles were spastic and tender with limitation of motion. The left popliteal area showed contracture. Diagnosis was made of fibrositis of left chest, shoulder and leg. Treatment was centered upon the fibrositis with topical application of wheat germ oil ointment* and a high vitamin E diet. On November 28, 1944, he reported marked improvement. On December 19, 1944, he was able to lift his left arm without pain. On December 30, 1944, there was both subjective and objective improvement. He was able to sleep on his left side, only an occasional limp and was able to return to his full occupation. Incidentally, there was great relief from his symptoms of bronchial asthma.

4. F. W., female, age 33, office clerk. Injured June 2, 1941. She fell and struck her left chest against the corner of the desk. Pain at the area of the impact became severe. She was unable to sleep on the affected side and was forced to resort to sedative. The family physician treated her by the accepted methods of strapping, physiotherapy and sedation. She was treated on and off for a period of 18 months. She was never completely relieved of the pain, but was able to perform light office duties. Because of her inability to sleep at night, she had developed a secondary neurosis with palpitation of the heart, and loss of weight. She first came under my observation on February 14, 1943. Examination revealed tenderness in the costal area, between the fifth and seventh ribs, in the left nipple line. There was a soft fibrous tissue band over the sixth rib, very tender with induration of the intercostal tissues above and below it. Diagnosis: Fibrositis of the chest wall in the area was made. Treatment was topical application of wheat germ oil ointment* and wheat germ oil capsules, internally and an appropriate diet. By May, 1943, the ridge of the fibrous tissue over the rib showed signs of absorption. Patient was able to sleep on the left side and was practically cured when on July 29, 1943, she was examined at a hearing by several doctors. The continued pressure by these examinations irritated the area and the pain recurred for awhile, but did not interfere with her sleeping. Continuation of treatment made patient completely symptom free.

5. J. S., male, age 33, auto mechanic. Injured June 28, 1945. A hammer slipped and hit his left hand, causing swelling of the knuckles and the thenar eminence. Treatment begun July 6, 1945, with topical application of wheat germ oil ointment* and within four days pain and swelling was down to a minimum and he was able to resume full work.

Conclusion:

IN A series of 20 cases in which the primary diagnosis was fibrositis, wheat germ oil ointment along was ordered. In this group, no vitamin E was given orally. Fifty per cent, or 10 patients, showed marked improvement or complete amelioration, 40%, or eight patients, showed fair improvement over a period of time, 10%, or two patients, showed no improvement. In these two cases, the diagnosis of fibrositis turned out to be in error, as one was diabetic neuritis and the other a vascular entity.

It is believed that wheat germ oil ointment has a relaxing effect upon the sarcostyles, relieving tension and tautness and is probably intimately involved in the metabolic processes in which the sarcoplasm acts as a lymph organ.

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Bibliography

1. HOWELL, W. H.: Textbook of Physiology, 14 Ed.: 1941; W. B. Saunders Co., Philadelphia.
2. STARLING, J.: Human Physiology, 8 Ed.: 1942; Lea & Febiger, Philadelphia.
3. DRUMMOND, C.: Symposium Vitamin E, Soc. Chem. Ind., Nutrition Panel.
4. GOETCH and PAPPENHEIMER: *J. Exp. Med.*, 54: 145, 1931.
5. WOOD and HINES: *Proc. Soc. Exp. Biol. & Med.*, 36: 746, 1937.
6. BARIE: *Biochem. J.*, 32: 2131, 1938.
7. SHIMATORI, EMERSON and EVANS: *J. Nutrition*, 19: 547, 1940.
8. STEINBERG: *Am. J. Med. Sc.*, 201: 347, 1941.
9. MOYNAHAN and NICHOLSON: *Brit. M. J.*, 65: 4428, 1942.
10. DE GUTIERREZ-MAHONEY: *South Med. J.*, 34: 389, 1941.
11. ANT, M.: *New York State J. Med.*, 45: 1861, 1945.

COMMENT and OPINION

INDUSTRIAL x-ray programs are likely to play a major role in tuberculosis control during the next decade.

—Editorial, *Am. J. Public Health*, November, 1945.

IF PUBLIC opinion believes that industrial health, as operated by private organizations, is a smoothly functioning, profitable program, it will realize that the program will go forward and expand and the clamor for socialized medicine will stop.

—From an address by WILLIAM D. GREDE, President, Wisconsin Manufacturers Association, Milwaukee, February 15, 1946.

RUSSIA'S industrial plants are going in heavily for health and child care programs, as well as subsidiary farming and better housing for workers.

—*New York Herald-Tribune*, April 17, 1946.

HOSTILE organisms account for eight deaths out of 10 in Middle America, as against three out of 10 in the United States. To combat these organisms and to improve the general health of the 10 countries in which the company functions, United Fruit maintains a medical department of approximately 1,100 people, including 137 nurses and 110 technicians. Dispensary treatments by United Fruit Company medical personnel totaled 700,000 in 1944, exclusive of 400,000 days of company hospital care.

—From an address by A. A. POLLAN, Executive Vice-President, United Fruit Company; *Milford, Connecticut, Citizen*, February 7, 1946.

THEY tell about the medical director who, in the days when he was in private practice, rushed into the coroner's office: "I want to change that death certificate I gave you yesterday. I put my name down in the space marked 'Cause of Death.'"

—"Today's Laugh," in *Chicago Daily News*, May 3, 1946, quoting *Commerce Magazine*.

THE government of Costa Rica has passed an industrial hygiene law which sets up standards for the construction, lighting, ventilation and sanitation for all buildings used for manufacturing purposes.

—*Hackensack, New Jersey, Bergen Record*, April 9, 1946.

Health in Pennsylvania

HEALTH conditions in Pennsylvania in industry are very good because tremendous improvements have been made in working conditions throughout the state in the past several years. Labor and management have been very cooperative and have been willing to make suggested changes or improvements. They realize healthful conditions are essential to their best interests because less time will be lost by their employees and production standards will be higher.

—DR. JOSEPH SHILEN in the *Ridgeway, Pennsylvania, Record*, April 2, 1946.

Compensation for TB

A RECENT ruling of the Wisconsin Industrial Commission, granting compensation to a Wisconsin student nurse employed in a Madison hospital, on the basis that her illness was contracted as a result of her employment, is being studied by many Wisconsin hospitals, which view the case as a test regarding their liability to nurses in training and other employees. . . . In presenting its ruling the Industrial Commission noted that the illness was contracted during the term of employment and stated: "That student nurses who render service in hospitals in exchange for instruction, maintenance, etc., are employees and entitled to the benefits of the Workmen's Compensation Act is established by *Employers Mutual Liability Insurance Company vs. Industrial Commission and Deluhery, 235*

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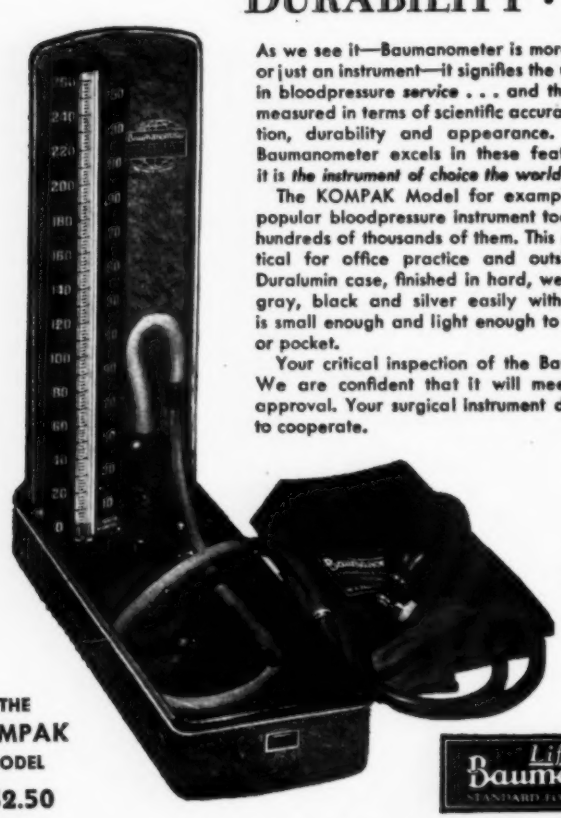

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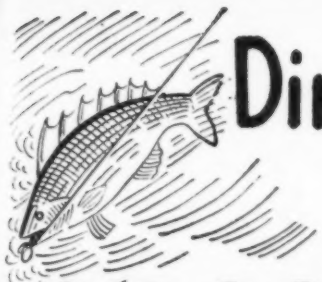

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Wis. 270, and is conceded by the Attorney General to be the general rule." The ruling, awarding financial indemnity to the complainant and attorney fees to those representing her, has been appealed and will be carried to a court of higher jurisdiction for review.

—*The Wisconsin Medical Journal*, April, 1946.

Factory Cancer Clinic

THE world's first industrial cancer detection clinic is now functioning as a project of Avondale Mills, Sylacauga, Alabama. With women workers and kin of mill workers voluntarily coming for examination at six-month intervals, it is believed case histories of early discovery and treatment will provide vitally needed scientific information. Already the clinic is credited with saving several lives, which has satisfied Hugh Comer, executive vice-president of Avondale Mills and chief financial supporter of the clinic, that his investment is profitable. This industrial concern already had an outstanding health program which gave workers' families complete medical treatment for a nominal cost, when the American Cancer Society sought a large group willing to submit to regular and thorough testing. Mr. Comer offered the facilities of his mill and its hospital.

—*Bridgeport, Connecticut, Life*, March 17, 1946.

Union-Employer Funds

THE following are samples of union-employer agreements for creation of welfare funds through direct contribution by the employers, and which have been in effect for various periods of time: Amalgamated Clothing Workers: 2% of gross weekly pay by employers to the union, administered jointly by employers and union. United Retail, Wholesale & Department Store Employees, in St. Louis: a 3.5% gross payroll tax, jointly administered; International Ladies Garment Workers, health benefit and vacation fund, 3 to 4% of gross payroll contributed by employers, union administered; Hat, Cap and Millinery Workers, 2% of gross payroll by employers, union administered; Textile Workers, C.I.O., employer-financed, administered by insurance companies.

—PAUL R. LEACH, in *Chicago Daily News*, May 7, 1946.

Precautions

THE greatest precautions ever taken to protect workers are those in use today in laboratories and plants in which atomic energy is studied or produced, says Collier's. Besides the thick walls of water and other methods used to absorb the rays, a meter is employed to determine the amount of radiation in the atmosphere. Other safeguards include x-ray film worn in the workers' clothes and tested weekly, and a bell at the exit gate which rings at the approach of anyone who has been overexposed to this radiation.

—*La Belle, Florida, News*, April 18, 1946.

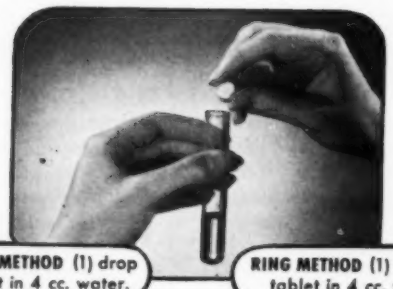
Coffee and Sandwiches

EVIDENCE that industry ministers to the well-being of its employees, even though strike-bound, came out in Chicago recently, when the Inland Steel Company sent 5,000 cups to the picket line in order that hot coffee could be served to the strikers; stoves were set up near the picket lines and coke was supplied so the marchers could stop and get warm. Steel plant strikers in McKeesport, Pennsylvania, and East Orange and Harrison, New Jersey, kept their picket-line fires going with fuel supplied by their employers. At the two New Jersey steel plants, pickets were fed by management-supplied sandwiches, were given benches on which to rest and sand for the icy line-of-march. In Los Angeles, the president of a struck aluminum plant bought breakfast for his picketing workers.

—*Connecticut Industry*, April, 1946.

Quiet!

QUIET working and living conditions for returned veterans suffering from combat fatigue and wartime jitters was stressed as one important means of hastening their return to normal health, by DR. VICTOR G. HEISER, member of the National Noise Abatement Council's Advisory Committee speaking before the annual Spring Meeting of the Council, in New York City on February 15. DR. HEISER is Medical Consultant to the Committee on Industrial Health of the National Association of Manufacturers. "Freedom from excessive noise is being recognized as an important factor in the rehabilitation program for returned war veterans," DR. HEISER told the Council. "Psychiatrists and



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(3) degree of turbidity indicates presence of albumin.

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THE effectiveness of Mercurochrome has been demonstrated by more than twenty years of extensive clinical use. For professional convenience Mercurochrome is supplied in four forms—Aqueous Solution in Applicator Bottles for the treatment of minor wounds, Surgical Solution for preoperative skin disinfection, Tablets and Powder from which solutions of any desired concentration may readily be prepared.

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is economical because stock solutions may be dispensed quickly and at low cost. Stock solutions keep indefinitely.

Mercurochrome is antiseptic and relatively non-irritating and non-toxic in wounds.

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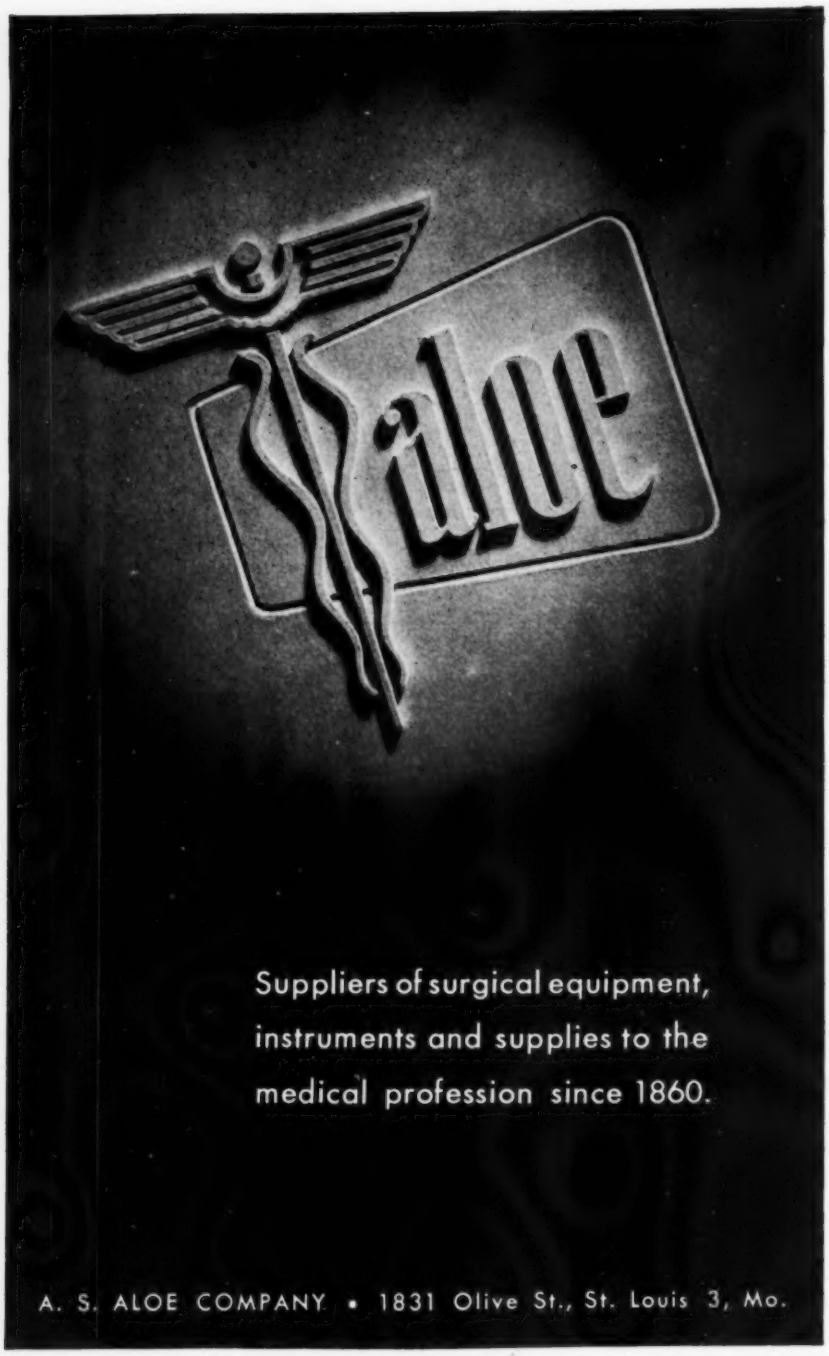
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others," he said, "are finding that veterans returning to civilian life, who are suffering from the shock of their war experiences, frequently are unable to work efficiently and happily when transferred to tasks where their surroundings are not quiet." DR. HEISER said it has long been recognized that excessive noise exerts an unfavorable influence upon the health and efficiency of workers in business and industry. He also said that continuous noise adversely affects the health and welfare of the general public. He suggested that there is wide opportunity for research to determine the deleterious effects of unnecessary noise upon people.

—*News Bulletin*, National Noise Abatement Council, March 11, 1946.

Can Do

T. R. PARRISH, vice-president of the United States Gypsum Company, which has employed many handicapped veterans, told of one who was hired only last November and recently was made an assistant to his plant manager. In the company's "employees' merit rating," based on mentality, knowledge of the job, quality of work, initiative, and responsibility, the boy scored 92, second highest in the plant. "We find the so-called handicapped veteran more stable, mature, anxious to do a good job," said Parrish, "and from the standpoint of workmen's compensation insurance a much safer risk than the non-handicapped man, for he is more careful." E. L. McMillen, a Studebaker Corporation representative from South Bend, said, "The GI represents the best source of labor material in the country. For every job a disabled veteran finds he can't do, there are 10 he can do." Pvt. 1st Class James Bixler, of Lincoln, Nebraska, 23 year old amputee who operated a sander, explained: "A guy is handicapped only if you let him know he is. As long as you don't look at him as a handicap, he won't be."

—From "GI Amputees Show Skill to Employers," by NORMA LEE BROWNING, in *Chicago Tribune*, April 18, 1946.

Mass X-Rays

FINDING early tuberculosis through the x-raying of employees of industrial plants is now an established part of the program of the Bergen County Tuberculosis and Health Association, and 2,284 workers have been x-rayed in the past four months. Five cases of tuberculosis had been discovered among Bergen County residents and four are already receiving sanitorium care; the other is under medical supervision at home. No figures are available on workers who reside out of the county. Figures from the U. S. Public Health Service, which has x-rayed thousands of workers, show 13 cases of tuberculosis per 1,000 persons examined with about 60% of these being in early stages. Chest x-rays are taken in the plants at the rate of 100 an hour.

—*Northern Valley Tribune-Citizen*, Tenafly, New Jersey, March 15, 1946.

Governor Dewey, on Health

CONFINING himself to public health, the Governor gives us a plan which would increase the State's annual expenditure from three to 14 millions. Especially striking is a "master plan" which would wipe out tuberculosis within the State "in 20 years or less" by better institutional facilities, by abolishing the "means test" and thus making it possible for any person with tuberculosis "to go immediately to a hospital for treatment without financial concern" and by more intensive case-finding on the part of the State Department of Health.

—From an editorial in *New York Times*, March 8, 1946.

Cancer

SOME people think that cancer always means death, but they do not know about the many lives that have been saved because people have consulted their doctors at the first warning signs. They do not know that immediate action can save six lives every hour. What are the warning signals which demand such prompt attention? You would do well to learn the following symptoms—any sore that does not heal, particularly about the tongue, mouth or lips; a painless lump or thickening, especially in the breast, lip or tongue, irregular bleeding or discharge from the nipple or any natural body opening; progressive change in the color or size of a wart,

Cuticura Soap and Ointment world-known for relieving externally caused skin irritations···

Now extensively used to help combat Industrial Dermatitis

CUTICURA SOAP is neutral, mildly medicated and emollient. Carefully made of the finest quality ingredients, its gentle cleansing action helps PREVENT irritation as well as aids RELIEF when used in combination with world-known Cuticura Ointment.

CUTICURA OINTMENT contains many valuable ingredients including antiseptic OXYQUINOLINE and emollient sulphurated petrolatum, long recognized by the medical profession as effective therapeutic agents in the treatment of industrial dermatoses.

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HVC

PHYSICIAN'S SAMPLES SENT ON REQUEST.

A marked tribute to the effectiveness of HVC is the large number of physicians in industrial plants who regularly prescribe HVC for their women workers, whose steady employment is of importance to the plant as well as to the women themselves. HVC is antispasmodic and sedative and being non toxic may be prescribed for intestinal cramps. It usually relieves dysmenorrhea.

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FOR
Pain, Swelling, Soreness

In the treatment of boils or other localized infections where "Moist Heat" is indicated, the "Moist Heat" of ANTIPHLOGISTINE helps relieve pain, swelling, and soreness.

Applied comfortably hot, ANTIPHLOGISTINE supplies "Moist Heat" for several hours. ANTIPHLOGISTINE may be used with chemotherapy.

The "Moist Heat" of ANTIPHLOGISTINE is also effective in relieving the pain and swelling of a sprain, bruise or similar injury or condition.

Antiphlogistine

Formula: Chemically pure Glycerine 45.000%, Iodine 0.01%, Boric Acid 0.1%, Salicylic Acid 0.02%, Oil of Wintergreen 0.002%, Oil of Peppermint 0.002%, Oil of Eucalyptus 0.002%, Kaolin Dehydrated 54.864%.

The Denver Chemical Mfg. Co., Inc., New York 13 N.Y.

mole or birthmark; persistent indigestion; persistent hoarseness, unexplained cough or difficulty in swallowing; any change in the normal bowel habits.

—From a Release of Illinois Medical Society, on Cancer.

Potters' Health Plan

THE health plan in operation for the benefit of the workers (members of the National Brotherhood of Operative Potters) is paid for by employers and is aimed at cutting down incidence of silicosis in the acute stage by early detection. For this purpose the majority of shops are equipped with x-ray clinics, with registered nurses in attendance who examine workers at regular intervals. Adopted two years ago, the plan has been in operation one year and is being established in all shops.

—*New York Retailing*, March 21, 1946.

"Rant and Rave"

NOW we find out there is an Association of Physicians and Surgeons Assistants. Apparently more medical practice is being turned over to non-medical persons than even we suspected. . . . MET two congressmen, got two opinions against the Wagner-Murray-Dingell Bill. However, as we didn't get them in signed statements they don't count. Never count a congressman's vote until it has been cast. . . . DR. FISHBEIN has a very excellent paper on public relations (five pages long) in this week's *Journal of the A.M.A.* Good as it is, we fear that few of the men it should reach will read it, as it is written in the dry style of a scientific treatise instead of in the form of a slap-in-the-face P.M. editorial. If you go to sleep in the middle of it, take a nap and then try again, for the article is full of good, rich meat. . . . IN a wartime emergency 75,000 men were declared physically unfit to aid the armed services in its war effort. Now that peace (?) is here, these same men are being declared fit for military service. This should be a good problem for a psychiatrist or a Chinese lawyer—or maybe we need an overhauling from the neck up. . . . FROM the *Journal of the A.M.A.*: "Dr. Ross Taggard, director of the Venereal Disease Bureau, also stated that since quick cures had been used, an increasing number of patients had been returning for treatment as often as six times a year." We wonder what the record is.

—From *Detroit Medical News*, March 11, 1946.

Definitions

SOCIALISM means that if you have two cows you give one to your neighbor. New Dealism means if you have two cows you shoot one, milk the other, and give the milk to Henry Wallace, who has it sent to Timbuktu where they don't drink milk. Communism means if you have two cows Stalin shoots you and takes the cows. Imperialism means if you have two cows the British borrow the cows and milk you. Capitalism means if you have two cows you sell one and buy a bull."

—PAST PRESIDENT THOMAS MULROY, at a meeting of the Executives Club of Chicago, March 29. *Executive Club News*, 22:29, 2, April 5, 1946.

Mine Safety

TRAGEDY of the coal strike situation is that public reaction against John L. Lewis has diverted attention away from one very just grievance on the part of the miners —mine accidents. Lumbering, coal and metal mining cost more lives per working hour than other industries in the nation. According to the National Safety Council there are 50.5 disabling injuries for every 1,000,000 man-hours in the coal and metal mines, compared to 14.46 disabling injuries per 1,000,000 man-hours of work in the entire nation. As late as 1941 Congress passed the National Coal Mine Inspection Act, empowering annual inspection of mines by the U. S. Bureau of Mines. However, the coal operators' lobby in Congress succeeded in winning its battle against compulsion. In other words, the operators don't have to carry out Bureau of Mines recommendations. The bureau can only advise. Larger mines, however, usually do carry out these recommendations and it is the small mines where most accidents occur. Conflict also exists between state and Federal inspection, with the operators preferring state inspectors, who are more lax, more politically minded. State laws

also vary greatly, and the Bureau of Mines cannot make a flat recommendation contrary to state law. For instance, the big mining states of Pennsylvania, Kentucky and West Virginia have laws to determine, by use of a flame safety lamp, when a mine is gassy. This lamp can pick up deadly methane, the most common mine explosive gas, down to a minimum of around 1%. However, the Bureau of Mines insists that a mine is gassy and dangerous if there is as much as 0.1% of methane present, and the bureau, not trusting the safety lamp, makes its test by a laboratory analysis, which is foolproof. The day after last Christmas, there was an explosion in the Belva mine near Pineville, Kentucky. Twenty men lost their lives. This mine was not "gassy" under Kentucky law, which meant that men could work in it with open (carbide) lamps. The Bureau of Mines, however, held that it was gassy and suggested the use of closed (electric) lamps. The bureau's tests had shown 0.1% of gas, but the mine had been closed for three days over Christmas and the gas had accumulated. Result: The bodies of 20 men still lie in the Belva mine. Unquestionably the miners deserve a uniform national mine inspection act, giving the Federal government full power of enforcement. Also there is a lot of merit in the idea of a welfare fund—but not when controlled by one man, and not when rammed down the throat of the American public at the point of a gun. Nearest thing to a welfare fund in any other industry is the fund administered by the Railroad Retirement Board, which was created by an act of Congress. If there were more leadership in Washington, the ground would have been cut from under John L. Lewis long ago by a move to meet the miners' safety and welfare demands by legislation, instead of allowing the situation to strangle the nation's economy.

—DREW PEARSON, in *Chicago Herald-American*, May 10, 1946.

Coal Mining in Wales

OLD mining families kept going generation after generation but today the sons of miners no longer are attracted to the industry. There is relatively good money to be made with average wages of $20 to $24 weekly and colliers on piece work at coal faces can make up to $64 or $68. However, if a collier makes too much he is taxed on his excess as much as 50%. It is possible to live well by working three weeks, taking a week's holiday and getting a tax rebate for not working that fourth week. Many workers have that down to a fine art. Welsh miners are not especially thrifty and they have little to spend their money on. So absenteeism is very high, especially among coal-face workers and Bevin boys, who hate their jobs. Avoidable absentees average 30 to 35%. There is a newly developed fear of those dread lung diseases, silicosis and pneumoconiosis, which have had such publicity because they increased alarmingly in recent years. The mines have offset the diseases by new methods of laying dust at coal faces and roadways but there is much to be done and the miners must cooperate. In five years, 1941 through 1945, there were 447 deaths and 7,326 disabilities from these diseases. So although Britain has something like 700,000 registered as miners (far too many for needs) only 620,000 are working any particular day. The industry is crowded with men who are getting too old—150,000 are more than 50 years of age, 100,000 more than 55 and a considerable number more are in the years past 65.

—From "Manpower Needs Tax Wales Mines," by HERBERT L. MATTHEWS, in *New York Times*, April 11, 1946.

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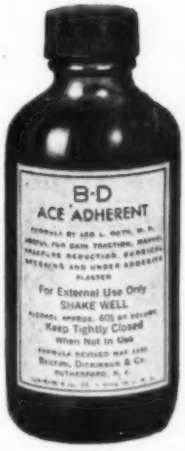
ELASTIC and ADHESIVE

An improved, tested bandage that has demonstrated its value for the treatment of varicose veins and ulcers, for strapping, support, minor cuts and abrasions

Improved B-D Ace Adhesive has long shelf-life. It withstands the standard one-week baking test without impairment to adhesive or other qualities.

Made of carefully selected ingredients, skin reactions are minimized. The adhesive coating will not pull off the bandage.

The backing of all-cotton Ace Elastic Bandage permits comfortable movement, yet provides firm support.



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An antiseptic, resinous liquid compound of adherent qualities. Originally devised for skin traction, it is now widely used for many other purposes. Useful for improving the tenacity of adhesive tapes on the skin, for holding dry bandages in place, for traction, and on the hands as an aid to manipulation. Available in 4 oz. bottles, through your regular dealer.

A sample of Ace Adherent will be mailed on request.

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Gallup Poll

ONE INDICATION of the uncrystallized opinion on the issue is from replies to the question: "What do you think should be done, if anything, to provide for the payment of doctor, dental and hospital bills for people in this country?" A total of 17% suggest voluntary health insurance programs, such as the Blue Cross hospitalization plan; another group, 12%, proposes medical insurance under Social Security; a third group, 11%, suggests special grants for hospitals and clinics to care for the needs. A group of 6% proposes private or community charity, and 12% give miscellaneous suggestions. Of the remainder, 16% say they do not know what should be done, and 26% do not think anything should be done. "If the government handled a health insurance program do you think you would get better medical

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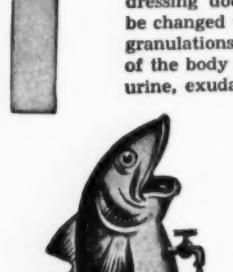
The External Cod-Liver Oil Therapy

USED EFFECTIVELY IN THE TREATMENT OF
Wounds, Burns, Ulcers, especially of the Leg, Intertrigo, Eczema, Tropical Ulcer, also in the Care of Infants

Desitin Ointment contains Cod-Liver Oil, Zinc Oxide, Petrolatum, Lanum and Talcum. The Cod-Liver Oil, subjected to a special treatment which produces *stabilization* of the Vitamins A and D and of the unsaturated fatty acids, forms the active constituent of the Desitin Preparations. The first among cod-liver oil products to possess unlimited keeping qualities, Desitin, in its various combinations, has rapidly gained prominence in all parts of the globe.

Desitin Ointment is absolutely non-irritant; it acts as an antiphlogistic, allays pain and itching; it stimulates granulation, favors epithelialisation and smooth cicatrisation. Under a Desitin dressing, necrotic tissue is quickly cast off; the dressing does not adhere to the wound and may therefore be changed without causing pain and without interfering with granulations already formed; it is not liquefied by the heat of the body nor in any way decomposed by wound secretions, urine, exudation or excrements.

DESITIN POWDER



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care or not as good medical care as you are now getting?"

Not as good.....35%
Better 32%
Same 23%
No opinion 10%

—"U. S. Public Split Over Health Insurance Plan," GEORGE GALLUP, in *Chicago Daily News*, May 20, 1946.

No Doctor, No Coal

"YOU'VE got it wrong," he said when it was suggested to him that a demand for better plumbing was responsible for the failure of the local miners to go back to work under the terms of Lewis' truce. "Living conditions here are pretty rugged. The vaults weren't emptied during the strike. But I think the boys would be willing to put up with that. The big trouble is the company doctor. About three weeks ago the doctor was called to look after a man who'd been smashed up in an accident. The Doc said he wouldn't go because the man was drunk. So he didn't go and the man died. Maybe he'd have died anyway but it was a bad mess. The men told the doctor to get out of town and he went. Then the union local elected another doctor. But the company officials refused to make the appointment. The boys said 'no doctor, no coal,' and they all went fishing. And there you have it." Well, as he said, there you have it. The rest of the Harlan district looks on with interest to see whether Kenvir gets new plumbing or a new doctor.

—From "Why Some Miners Didn't Go To Work," in *Chicago Daily News*, May 20, 1946.

Lighting in Industry

IN INDUSTRY, lighting is an important factor in safety and production. Well-lighted corridors, aisles and stairs help to prevent accidents. Such lighting should be diffused, free from glare and of adequate amount to permit obstructions or steps to be seen easily and clearly. For detailed and exacting work, general illumination usually must be supplemented at the work point. Such lights should be shielded to prevent glare either for the individual worker or for those nearby. Glare may also be reduced and seeing facilitated by painting the machines with dull-finished paints, using contrasting colors for various parts of the machine. Certain types of inspectional work are facilitated by what is called "directional lighting"—light directed on the work at such an angle that even very slight irregularities on the surface are easily discernible. Because of variation in the visual demands in industry, no generalization can be made regarding amounts of and arrangements for desirable illumination. However, specifications have been developed for recommended practices of lighting for particular types of work in various industries. The amounts suggested indicate the minimum light needed at the work point and for general lighting. Periodic checks with a light meter are necessary to be sure the light continues to be adequate. Plant housekeeping is an important factor in good lighting. Clean, light-colored walls and ceilings with dull finish reflect the light without contributing to glare. Clean windows and lighting fixtures, and replacement of deteriorated bulbs, increase the amount of light available from these sources and prevent wasted illumination. Routine schedules should be arranged for maintaining these facilities at maximum efficiency.

—From *The Sight-Saving Review*, 14:4, Supplement, 237.

Industrial Medicine

INDUSTRIAL MEDICINE. DONALD HUNTER. *The Practitioner, vol. 155, no. 5, pp. 270-286 (Nov., 1945).* This is a most readable exposition of the author's thesis that "those responsible for medical education must show a greater awareness of the problem and of the need to provide adequate facilities, both for undergraduate and postgraduate students to study industrial medicine." It is an even better exposition of something the author's modesty can not allow him to point out—that industrial medicine needs good internists. Naturally most of the cases cited come from England for he is aiming at his British colleagues, yet our literature comes in for its just share of citations. He discusses hours of work, lighting and vision, heating and ventilating, vocational psychology, prevention of injury, sickness records, wound infection and burns, occupational diseases, industrial toxicology and industrial lung diseases. There are 80 references. This abstractor has seen nothing since Sir Thomas Legge's "Industrial Mala-

dies" (1934) which told as well what was happening in industrial medicine in Britain.

—Abstract by PHILIP DRINKER, in *J. Indust. Hyg. & Tox.*, March, 1946.

Peak Load

INDUSTRIAL hygiene services to industries in the country were maintained at their peak load during the 1945 fiscal year, according to a summary of reports of services submitted to the U. S. Public Health Service. Forty-two units in 36 States gave 23,725 different services to 16,205 individual establishments employing 6,563,000 workers. Not included in this is the work of four state and three local units. Slightly over one-half, or 54%, of these investigations were self-initiated; 25% were requested by management, labor, state, and Federal agencies; 2% were investigations of official reports of occupational disease cases; and 19% comprised followup investigations on the status of compliance with recommendations. Comparison of similar data with the two-year summary of activities compiled for July, 1942, through June, 1944, shows an increase in the number of requested services. In fact, excluding one large state in which most of the services to industry were self-initiated owing to the type of program being carried on at the time, the proper proportion of requested services in the remaining 41 units is on the average much higher, being 36% as contrasted with 25% for all 42 units. Close to two-thirds of the services consisted of surveys, studies, and consultations on problems of the working environment. The remainder of the services were given in the interest of establishing or improving plant medical health programs with particular emphasis on nursing services. Considerable work was done in promoting tuberculosis case finding programs in industry, as well as in assisting with in-plant feeding services, especially in the war industries. In the determination of the extent and degree of occupational health hazards, the units performed 21,896 tests of materials and substances in the laboratory, and over 22,000 tests and measurements in the field. A total of 3,034 cases of occupational illness was investigated, and 4,607 medical examinations of workers with symptoms of occupational illness were performed. Improvements in the working environment and in health and welfare services were recommended in approximately 41% of the establishments and for 25% of the workers employed in these establishments. Compliance with recommendations was reported in 44% of the establishments in which they were made and for 35% of the workers involved. A total of 13,012 different improvements were recommended, and, according to the reports for this period, 40% were carried out by management. When compared with the two-year summary of services, these data indicate that the proportion of plants and workers involved in recommended improvements was about the same. The proportion of workers and plants in which improvements were made was somewhat lower for this period, but the amount of follow-up work to check on compliance with recommendations was as usual limited, accounting for part of the decrease. No improvement was observed in reporting the occurrence of occupational diseases to health departments. Nine states reported a total of 18,289 cases or claims of occupational illness during the reporting period. It is hoped that with the termination of war, and with expanded state and local industrial hygiene programs, more effort will be expended in stimulating the reporting of occupational diseases to official agencies, and, thus more technical investigations.

—*Industrial Hygiene News Letter*, March, 1946.

Food

MOST men and women begin to break between the ages of 45 and 55, a period we speak of as middle life. This should be the time when man, by virtue of his previous learning and experience, is best equipped to begin his best work. In actual experience, however, this is the exception. Can anything be done about it? Yes, much depends upon our food. In the past 15 years much has been learned from the animal experimental laboratory and from clinical experience with the sick. We know that other factors, such as heredity and environment, being equal, the food intake in correct qualitative and quantitative proportions of its various chemical elements, does definitely prevent and cure disease, promote health and prolong life. The correct quality and quantity of food elements vary with each individual and also under many and varied conditions, such as, for

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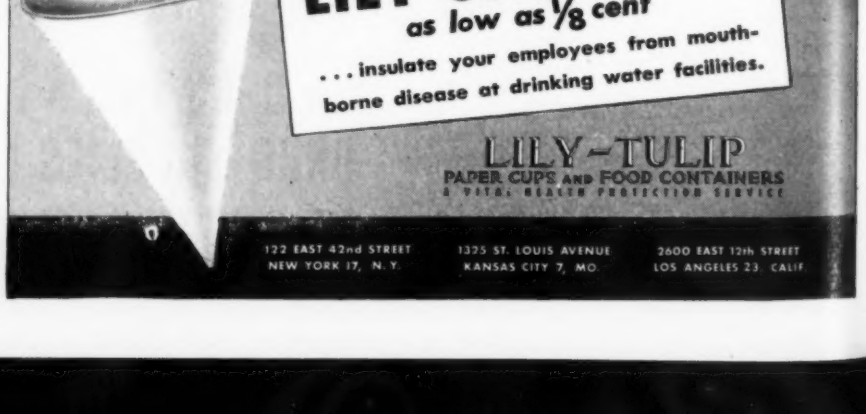
example: the character of work, both mental and physical; the temperature and humidity of the weather; the size, weight and age of the body; and many individual characteristics and personal peculiarities. The subject of proper diet, then, is an individual problem. It has been estimated that 65% of all the ills that afflict man are either directly or indirectly caused by an improper, faulty, or unbalanced diet. The human body is exactly the same as any man-made inanimate machine, with the exception that it is far more intricate and complex with many thousands of small parts. Each must have proper fuel, but in man this fuel must not only create energy, it must rebuild worn-out parts. We call this fuel "food." We do not know the perfect or ideal diet for man, but progress is being made. Food does determine our destiny.

—Illinois State Medical Society Release.

Methionine

SINCE 1939, Dr. Paul Gyorgy, a research professor at the University of Pennsylvania, and his associates have been untangling the mysteries of methionine, the liver protein. The result of their labors is an easily given methionine that they call meonine. The first clue to methionine's possibilities came in reports from scattered researchers about the liver's functions with seemingly disparate maladies that had only one thing in common: damage to the liver always accompanied or followed these diseases. It is evident now that some so-called liver diseases and some other human ailments are really starvation for that particular amino acid known as methionine. People with advanced cirrhosis, the common plague of alcoholics, cannot live; but it isn't the alcohol that causes it. The trouble is that alcoholics simply cannot find time to eat properly, and they shy from worthwhile protein foods when they do eat. Next to a long ride on the water wagon, Gyorgy reports, the alcoholic's best hope for a full life span is a daily supply of methionine with added vitamins. If the cirrhosis has started but has not gone too far, methionine will halt its progress and help the liver fight its way back to normal. Some people have such deficiencies without being alcoholic. In poverty-stricken areas, where high-protein diets are rare, and among the well-to-do, who sometimes ike to indulge in diet fads, doctors find cirrhosis a too-common ailment. Methionine is the indicated remedy for both the poor and the rich. Doctors who investigated industrial poisoning cases came up with the discovery that they were in effect just an acute liver hunger for methionine. Methionine's third big field is concerned with syphilis patients who, undergoing treatment with arsenic compounds, frequently develop jaundice. The doctors tried methionine and it has worked; it may even turn out to be of help in infective jaundice. For methionine's fourth big use, the doctors went far afield—the ills of pregnancy. Eclampsia took many mothers' lives and it remained baffling until a young researcher at the University of Oregon Medical School, Dr. R. E. Rinehart, found a direct connection between eclampsia and a shortage of protein. That, of course, brought it right to the liver. The mother must eat methionine for two; if she doesn't, the unborn baby will take the methionine supply from the mother. Lack of methionine turned out to be the simple key to the convulsions of pregnancy. Then came a truly remarkable discovery. A person severely burned, a patient undergoing a major operation, the victim of an accident that causes bad fractures—they are all subject to surgical shock brought about by the body going on a rampage to find new materials to replace the proteins of the destroyed tissues. The natural place to raid for proteins is the liver; surgical shock therefore is simply abnormal demand for protein that throws the liver out of kilter. Researchers at Oxford University came to the conclusion that only methionine would do the trick. Item No. 6 in the list of methionine's clinical uses concerns the liver injury that sometimes follows use of anesthetics in surgery. This kind of injury had always been considered a form of poisoning until, as in the case of the industrial-poison cases, the doctors learned that it represented rather a sort of starvation of the liver for methionine. The anesthetic in such cases plays chemical havoc with the liver's amino-acid breakdown. The remedy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was obvious. Methionine's seventh big use today is the treatment of malnutrition. The foods that contain proteins are usually less common and more expensive than others, and therefore are not easily obtained by people who suffer from malnutrition. Besides, they need concentrated, easily digested or pre-digested foods that won't strain their out-of-practice digestive systems. And they need their amino acids for current nutrition and to make up what they have lost, in big doses—much bigger than they could get from whole foods. Wyeth chemists set out to make methionine synthetically, and finally came up with a method that has just been perfected for large scale production. It may be given by mouth or by injection to patients too weak to take large meals. With vast parts of the world in need of nourishment today, methionine—and the other amino acids for their own particular body needs—may be an important source of the world's food for the coming years.

—Wyeth release.

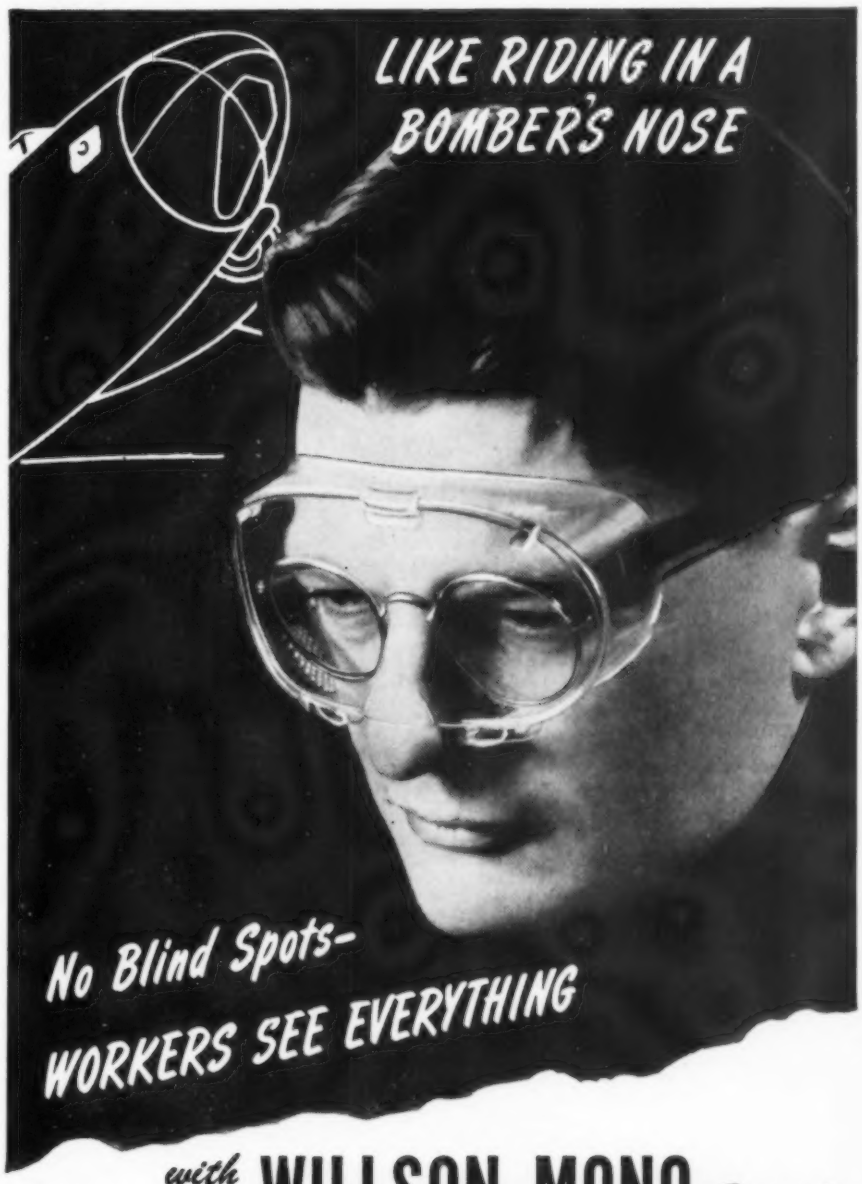
The Governor of Illinois

RECENTLY the Illinois legislature passed a bill which would make members of the medical profession subject to a $200 fine if any physician or surgeon refused to respond to an emergency call where the accident or injury is liable to cause death or severe injury. Governor Dwight H. Green promptly vetoed the bill. Part of his veto message read: "The medical profession has had a long and honorable career; its members are well educated, highly trained, and before receiving a license are thoroughly examined. The profession as a whole maintains and adheres to the highest ethical standards. It hardly seems necessary that a profession of that character, with traditions of public service extending over centuries, should need a criminal statute to enforce the rendering of medical or first aid service. This is a subject which I believe may safely be entrusted to the consciences and good will of those who practice medicine in the State of Illinois." Governor Green's loyalty and support of the profession should be called to the attention of all physicians. Certainly Illinois has a governor every physician should be proud of.

—H. S., in *Mississippi Valley Med. J.*, April, 1946.

Army Industrial Medicine

GENERAL policies for maintaining an industrial medical program in Army-owned industrial plants, arsenals, depots, and ports of embarkation are outlined in Army Regulation 40-220, 16 October 1945, which establishes as a permanent part of government activities a program that has been functioning for over three years. Under AR 40-220, The Surgeon General initiates policies and prepares directives and



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His preference for wet dressings solution is **Domeboro Tabs** ("widely used in industry", particularly by Parkes[2] at Curtiss Wright for cutting-oil dermatitis)—because it is "a convenient tablet which, when dissolved in water, releases a *lead-free aluminum acetate in appropriate dilution,*" with a substantial percentage of boric acid.

The *crude coal-tar paste* used at New York University, according to Combes, "is manufactured commercially under the name **Daxalan**"—which has been found *superior to distillates, filtrates and pastes containing liquor picis carbonis.*

It must be properly applied for "optimum benefit", and Combes advises thinning with **Domolene** for spreading over a large area—because in his judgment its hydrophilic ointment base "does not materially lessen the therapeutic efficacy of the paste."

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(1) Combes, F. C.: Indus. Med., July, 1944.
(2) Parkes, Morey: Indus. Med., January, 1944.

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technical advice for all Army branches on matters pertaining to industrial health hazards and practices. Provision is also made for inspections, reports, and the maintaining of such records as are necessary to insure the effectiveness of the program. An industrial hygiene laboratory will be maintained at Edgewood Arsenal, Maryland, for conducting surveys and special investigations with respect to the control of occupational health hazards and the improvement of working conditions from a health standpoint. Activities of the laboratory include the chemical and toxicological analysis of toxic substance samples encountered during surveys and investigations, the recommending, including plans and specifications, of equipment to control health hazards, and the investigation of research problems.

—*Connecticut State Med. J.*, May, 1946.

Health in Atom Work

ELABORATE precautions, including medical research as a scientific guide to the most effective use of safety devices, resulted in perfect protection against radiation for workers on the atomic bomb project, the University of Rochester said today. A report on medical research conducted at the university under contract with the Manhattan Engineer District, in charge of atomic bomb development, declared that not a single person was injured by radiation while working on the project. The report was approved by the office of Major General Leslie R. Groves, who directed the district. A spokesman for the medical research project, organized here in March, 1943, said the work "may well have far-reaching effects in several branches of medicine, notably in the field of metabolism, both normal and pathological, and especially in cancer research." The report also stated that physiological investigations of the mechanism of intoxication observed after radiation exposure "may have an important bearing upon the treatment of shock encountered in ordinary medical practice." The laboratory, which devised safeguards for workers and new electronics instruments to measure the amount of radiation exposure, was in daily contact with atomic bomb assembly and research plants throughout the United States. Samples of human workers' breath were taken and analyzed for evidences of radiation. In addition, workers wore pieces of unexposed film, protected against light. If the film was clouded upon development it indicated some radiation had reached the wearers. "This information helped plant managers in determining when and where employees needed to wear rubber gloves and other protective devices against radiation," the report stated. The amount of acute radiation that could be tolerated by a population in the event of accident or enemy action was studied in experiments during which animals were subjected to large single doses of radiation.

—*California & Western Med.*, February, 1946.

A Program

I ONCE went to the funeral of a colored boy. In the funeral home there was the deceased, Clarence, in the casket. One big colored fellow was supposed to stand at attention, wearing a big hat with a plume across the center, and a spear. Well, he stood there, and the organ started to play, and the widow started to cry. She said, 'Clarence, Clarence; Oh, Clarence, please talk to me.' You should have seen the big guy in the uniform. He tried to look out of the corner of his eye to see what Clarence was doing over there. Everything was quiet for a few seconds, and finally she started to cry, and she said, 'Clarence, Clarence; please talk to me.' The big negro pulled himself up to his full height, and said, 'If and when he do, that door is mine, right over there.' That boy had a program."

—MR. HARRY L. SAIN at a meeting of the Executives Club of Chicago, May 3. *Executive Club News*, 23:33, 1, May 10, 1946.

Fiberglas

COMPARTMENTS in the service ships are being lined with mats of "fiberglas," presumably for insulating and sound-proofing purposes. Several shipworkers have had severe persisting coughs, sometimes lasting for many months, which they ascribe to the "fiberglas" dust. Some men have physical signs of bronchitis, some do not. One man who had coughed for several months—since beginning to work with the "fiberglas"—has no definite physical signs of silicosis, and his x-ray film is normal except for a number of Ghon

shadows. Is there not an industrial hazard of silicosis? No respirators or masks are issued. The *American Medical Association* in the June, 1945, *Journal*, states that unpublished animal experiments at Saranac Laboratory have demonstrated that "fiberglas" is not inhalable in appreciable quantities. After exposures of three years with the maximum atmospheric concentrations that should be maintained, the lungs of guinea pigs and white rats contained practically no fiber and no scar tissue developed. The fiber used for insulation varies from 3 to 10 microns in diameter, which is too coarse to penetrate the lungs. A specially prepared fiber, 3 microns or less in diameter, was also excluded from the lungs apparently because it carries an electrostatic charge which causes it to adhere and mat on surfaces with which it comes in contact. Annual x-ray examinations of employees manufacturing this product have revealed no signs of pulmonary reaction. While "fiberglas" is irritating to the skin and upper respiratory membranes, it does not cause pneumoconiosis. (See "Fiberglas Health Hazard Investigation," by WALTER J. SIEBERT, M.D., INDUSTRIAL MEDICINE, 11:1, 6, January, 1942; also "The Effects of Fiberglas on Animal and Human Skin," by MARION B. SULZBERGER, M.D., and RUDOLPH L. BAER, M.D., INDUSTRIAL MEDICINE, 11:10, 482, October, 1942.)

—From *What's New in Industrial Hygiene*, January to March, 1946.

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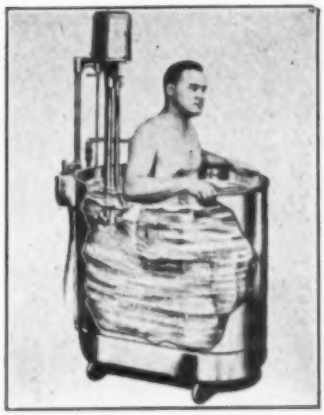

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New Jersey

WITH the advent of the war and the development of the "blackout" type of plant, industry universally accepted fluorescent lighting as acceptable lighting for such installations. Soon this Division was flooded with complaints and inquiries relative to the alleged dangers that workers would be exposed if they worked under these new lights. Most consistent complaints were that the lighting was harmful to vision. Our investigations of these allegations could not substantiate these claims. However in some instances workers were not convinced. Thus we were more than pleased to see an official statement, denying any harm to vision, appear in the August 25, 1945, issue of the *Journal of the American Medical Association*. "The following statement was submitted to the Council on Industrial Health of the American Medical Association by the Joint Committee on Industrial Ophthalmology of the Section on Ophthalmology of the American Medical Association, and the American Academy of Ophthalmology, and Otolaryngology: 'Fluorescent lighting has been regarded by physicians and others as possessing harmful qualities not found in other forms of artificial illumination or in daylight. Both the ultra-violet and infrared components have been suspected. The Joint Committee on Industrial Ophthalmology, after consultation with specialists in the production and use of light, holds the following opinion: (1) The ultra-violet energy from clear blue summer skylight is three to four times as great per footcandle as fluorescent light. (2) Light from fluorescent lamps resembles daylight more closely than that from tungsten-filament lamps. This color resemblance to daylight is a desirable quality. (3) Infra-red energy found in fluorescent lighting as now manufactured produces no known physiologic effect except that due to heating. Fluorescent light generates less heat per candlepower than tungsten lamps. (4) Glare occurs in any system of lighting. Its solution rests with illuminating engineers. (5) Individual differences occur in the level of illumination (footcandles) required to provide a satisfactory degree of visual efficiency and eye comfort. Twenty footcandles is essential for such critical tasks as reading. Higher levels of illumination are desirable for prolonged seeing, for discrimination of fine details and where low contrast prevails. These standards can be readily maintained in working places through use of properly installed fluorescent lighting. (6) Excessive light may produce symptoms of eyestrain in susceptible individuals regardless of source. Constitutional factors should be corrected as well as the amount and kind of light. (7) Noticeable flicker is largely eliminated in modern fluorescent installations. SUMMARY: Fluorescent light is not harmful to vision. It should not cause eyestrain if properly installed and used.'"

—Industrial Health Bulletin, Bureau of Industrial Health, New Jersey Department of Health.

Aluminum Therapy

ALUMINUM in the prevention and treatment of silicosis: The Council on Industrial Health and the Council on Pharmacy and Chemistry of the American Medical Association have authorized publication of the following report on the use of aluminum in the prevention and treatment of silicosis. Since this means of therapy is controlled by patent and can be used only by licensees, studies will be continued by the two councils into this phase of the subject. Further reports will be issued as indicated.—CARL M. PETERSON, M.D., Secretary, Council on Industrial Health, and AUSTIN E. SMITH, M.D., Secretary, Council on Pharmacy and Chemistry (in *Journal of the American Medical Association*, 130: 17, 1223, April 27, 1946). Text: "The dissemination of reports on the effects of aluminum powder in the prevention and treatment of silicosis has aroused widespread interest and a demand for an authoritative statement regarding its value. At the present time the following statement would seem to be war-

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ranted; it is subject, however, to such modification as future knowledge and experience may indicate. (1) In experimental animals the prophylactic use of aluminum inhibits the toxic action of relatively pure quartz. (2) In man, industrial dust exposures often involve mixtures of various minerals in addition to quartz and other environmental variables to which experimental animals are not subject. Therefore human silicosis usually develops more slowly and is often modified in type. Only prolonged unbiased observations, with adequate control cases, will demonstrate whether the prophylactic results obtained with animals are applicable to man. (3) Animal experiments have demonstrated that administration of high concentrations of amorphous hydrated alumina unfavorably influences resistance to tuberculosis. While this result has not yet been reported for metallic aluminum, caution in the application of all aluminum therapy to human beings is recommended. (4) The use of aluminum might appear as an easy short-cut to healthful working conditions, thus saving large expenditures for ventilation and other control methods. Actually there is no substitute for the accepted methods of dust control. (5) If industry indiscriminately treats all employees with aluminum dust, there may be aggravation of tuberculosis or other pulmonary conditions. (6) The therapeutic use of aluminum in man appears to relieve symptoms in a very small number of cases in which silicosis develops rapidly. Experience in some groups is more favorable than in others. (7) In view of these considerations it is recommended that the general application of aluminum therapy in industry be delayed until adequately and impartially controlled clinical observation demonstrates its effectiveness in preventing or alleviating silicosis in man. In the meantime, there should be no slackening in the control measures that have been found effective in reducing the incidence of dust diseases in industry."

Free Choice

NATHAN RABINOWITZ, "Free Choice of Doctors under the Workmen's Compensation Law," in *Paterson, New Jersey, Call*, March 23, 1946. Extract: "Adopting a fundamental principle of medical ethics, the patient should have a physician of his own choosing. Confidence in his employer can be restored to the injured workman only when he is free to make his own choice rather than be dictated to by impersonal corporation personnel. The employer need have no fear that a system giving the worker a free choice of doctors will destroy the right to contest the claim. Medical examinations by the company doctor will fully protect the employer. Expert testimony arguing the issues of relationship to the accident alleged, and extent of disability will always remain matters for the deputy commissioner to solve after a full hearing on the merits of the claim with evidence submitted by both employer and employee. Giving a free choice of doctors to the employee will add dignity to the administration of compensation by the encouragement of practitioners to testify who are now reluctant to appear before the bureau. The patient's welfare will be paramount in the physician's mind, and he will place before the court by his study and care of the case analysis of the injury which could be arrived at only by close association with the employee from the beginning of the injury, and arrived at from an impartial and unbiased viewpoint. A suggested revision of the existing statute is as follows: 'An injured employee may, when care is required, select to treat him, any physician authorized by the commissioner of labor to render medical care.' Proper certification of physicians by medical societies can be made directly to the commissioner of labor together with suitable regulation as to fees. In the adoption of this amendment, New Jersey will follow the states of Rhode Island, Massachusetts and New York, where similar provisions have met with public approbations. The change can be accomplished only by the Legislature of New Jersey."

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1. *Blain, A. W. and Campbell, K. N.—Arch. of Surg., 44:1117, (June) 1942.*
2. *Hulse, William F.—Arch. of Otolaryngol., 37:831, (June) 1943.*
3. *Herbst, W. P., and Weinstein, J. J.—Jour. Urology, 51:325, (March) 1944.*

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